

Indiana Department of Transportation

County Adams Route US 224 over Holthouse Ditch Des. No. 1701394

**FHWA-Indiana Environmental Document
CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM
GENERAL PROJECT INFORMATION**

Road No./County:	US 224/Adams County
Designation Number:	Des 1701394
Project Description/Termini:	Bridge project along approximately 0.17 mile of US 224, from approximately 0.11 mile west of CR 100 West to approximately 0.06 mile east of CR 100 West

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

X	Categorical Exclusion, Level 2 – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
	Categorical Exclusion, Level 3 – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division)
	Categorical Exclusion, Level 4 – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA
	Environmental Assessment (EA) – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

Approval _____
 ESM Signature _____ Date _____ ES Signature _____ Date _____

 FHWA Signature _____ Date _____

Release for Public Involvement

KMN _____ 6/19/20 _____
 ESM Initials _____ Date _____ ES Initials _____ Date _____

Certification of Public Involvement _____
 Office of Public Involvement _____ Date _____

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

INDOT ES/District Env. Reviewer Signature: Joni Herron & Karen M. Novak Date: 4/24/20 & 6/12/20
 Name and Organization of CE/EA Preparer: Christian Radcliff, Green 3, LLC

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Part I - PUBLIC INVOLVEMENT

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

Does the project have a historic bridge processed under the Historic Bridges PA*? Yes No
If No, then:
Opportunity for a Public Hearing Required? Yes No

**A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.*

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Remarks: Notice of Entry letters were mailed to potentially affected property owners near the project area on May 17, 2018 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, page 1. Four responses to the Notice of Entry letters were received. The responses received indicated that there may be septic systems or wells on some properties, the stream floods regularly and pools in wetlands on adjacent properties, and that there are various gas, telephone, and electric utilities adjacent to the project area (Appendix G, pages 4 to 7).

The project will meet the minimum requirements described in the current *Indiana Department of Transportation (INDOT) Public Involvement Manual* which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.

Public Controversy on Environmental Grounds
Will the project involve substantial controversy concerning community and/or natural resource impacts? Yes No

Remarks: At this time, there is no substantial public controversy concerning impacts to the community or to natural resources.

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Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: Indiana Department of Transportation (INDOT) INDOT District: Fort Wayne
 Local Name of the Facility: US 224 over Holthouse Ditch

Funding Source (mark all that apply): Federal State Local Other*

*If other is selected, please identify the funding source: _____

PURPOSE AND NEED:

Describe the transportation problem that the project will address. The solution to the traffic problem should NOT be discussed in this section. (Refer to the CE Manual, Section IV.B.2. Purpose and Need)

Need:
 The need for this project is due to the condition of the superstructure and substructure of the existing bridge. The superstructure has a rating of 5 out of 9 due to the age, heavy deterioration of the top of the arch ring, and the deterioration of the headwalls. The decorative caps on the headwalls are both disintegrating. There is also cracking and spalling in the headwalls. The substructure of the existing structure is rated as 5 out of 9 due to the age and deterioration of the wings of the abutments. There is no hard deck on the structure but rather a layer of Hot Mix Asphalt (HMA) over shallow fill. There is erosion in the southwest corner of the bridge which is causing failure of the pavement in that location. The existing structure is not properly sized to handle to flow of Holthouse Ditch. An excerpt of the Engineer's Assessment outlining the deficiencies of the bridge approved on November 14, 2018 is included in Appendix I, pages 7 to 11, and the bridge inspection report dated June 22, 2018 is in Appendix I, pages 12 to 16.

Purpose:
 The purpose of this project is to provide a structure carrying US 224 over Holthouse Ditch that has a superstructure and substructure rating of 9 out of 9. A secondary purpose of this project is to increase the width of the waterway opening to provide better hydraulics through structure.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Adams Municipality: N/A

Limits of Proposed Work: Along approximately 0.17 mile of US 224 from approximately 0.11 mile west of CR 100 West to approximately 0.06 mile east of CR 100 West

Total Work Length: 0.17 Mile(s) Total Work Area: 1.94 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?

Yes ¹	No
	X
Date: _____	

 If yes, when did the FHWA grant a conditional approval for this project?

¹If an IMS or IJS is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IMS/IJS.

In the remarks box below, describe existing conditions, provide in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

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Location

The proposed project is in Adams County and west of the City of Decatur, Indiana in Washington and Root Townships. Specifically, the project is located in Sections 4 and 33, Townships 27 and 28 North, Range 14 East as shown on the Decatur, Indiana 1:24,000 quadrangle map. The project will occur along approximately 0.17 mile of US 224, from approximately 0.11 mile west of CR 100 West to approximately 0.06 mile east of CR 100 West. A project location map, topographic map, and 2016 aerial map are included in Appendix B, pages 1 to 3.

Existing Conditions

The existing roadway of US 224 is classified as an Urban Minor Arterial and provides a two-lane cross-section with 12-foot wide travel lanes and 3-foot wide shoulders. The bridge carrying US 224 over Holthouse Ditch is a single span concrete arch bridge that is 45.5 feet in length and approximately 37 feet in width and is on a 10-degree skew. The structure was constructed in 1936 and has not been rehabilitated or repaired, and it is not listed as historic on the INDOT Bridge Inventory Collection. The bridge received a sufficiency rating of 83.9 out of 100 in the June 22, 2018 INDOT inspection report, with both the superstructure and substructure receiving ratings of 5 out of 9 (Appendix I, pages 12 to 16). Land use surrounding the project area includes agricultural land to the north and south of the west side of the project bridge, with interspersed residences east of the project bridge. Holthouse Ditch and a riparian corridor along Holthouse Ditch are within and adjacent to the project area.

Preferred Alternative

The preferred alternative for this project is to replace the existing bridge with a three-span concrete slab bridge that will be 100 feet in length and 43.5 feet in width and will retain the 10-degree skew. A new guardrail and guardrail transitions and end treatments will be installed with the new bridge, as well as at the intersection of US 224 and CR 100 West. Approach work will be required to tie the new structure into the existing roadway. Riprap will be placed along the spillslopes to prevent scour. Two existing culverts, labeled Structure 10 and Structure 11 on the attached plans (Appendix B, pages 10 to 22), will be replaced during the reconstruction of the private drive east of the existing structure. One unnamed culvert that is buried will be removed on the east side of CR 100 West. The overhead electric lines on the south side of the road, the existing gas main on the south side of the road, and the existing communication lines on the north and south sides of the road will be relocated. The termini for construction will extend far enough east and west of the bridge to allow for the installation of guardrails and to complete the approach work. Approximately 0.77 acre of permanent right of way (ROW) and 0.12 acre of temporary ROW will be required to complete construction. Temporary drives will be required for the residences on the east side of the existing bridge and a cofferdam with a dewatering pump will be utilized to complete construction. Traffic will be maintained through a full closure of the bridge and a detour. The official detour route will utilize US 27, SR 124, and SR 301 and will be approximately 19.5 miles in length. The detour will be required for the duration of construction which is anticipated to be approximately 120 days in length. Signage notifying motorists of the bridge closure will be placed east and west of the existing bridge. Project impacts will be minimized to the extent necessary to complete construction. Mitigation will occur for adverse impacts to the terrestrial habitat and to waterways. Project plans showing the construction to be completed are included in Appendix B, pages 10 to 22. This alternative addresses the purpose and need of the project by providing a superstructure and substructure that will be rated 9 out of 9. Additionally, the extended length of the proposed bridge will address the secondary purpose of the project by widening the waterway opening. The project is scheduled for letting in December 2021.

OTHER ALTERNATIVES CONSIDERED:

Describe all discarded alternatives, including the Do-Nothing Alternative and an explanation of why each discarded alternative was not selected.

Do Nothing

The do nothing alternative would not require the expenditure of any capital funds, would have no impact of the physical or social environment, and is feasible. This alternative is not prudent because it would not address the purpose and need of the project; therefore, this alternative was dismissed from further consideration.

Precast Three-Sided Reinforced Concrete Arch Structure

This alternative would include the installation of a precast reinforced concrete three-sided arch structure that is 62 feet in length. The bridge would be attached to concrete pedestals poured above the footings. Wingwalls would be required at all four corners of the new structure. The existing grade of US 224 would need to be raised a maximum of 6 inches to accommodate the new structure. Guardrail would be installed on the new structure and along CR 100 West. This alternative would meet the purpose and need of the project by providing a structure that has a superstructure and substructure rating of 9 out of 9 and it would widen the waterway opening. This alternative was not selected because the long-term performance of this bridge type is not expected to match or exceed the preferred bridge type and the waterway opening will not be as large as the preferred alternative; therefore, this alternative was dismissed from further consideration.

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CR 100 West

Functional Classification: Urban Major Collector
 Current ADT: N/A VPD (2022) Design Year ADT: N/A VPD (2042)
 Design Hour Volume (DHV): N/A Truck Percentage (%) N/A
 Designed Speed (mph): 40 mph Legal Speed (mph): 40 mph

Existing Proposed

Number of Lanes:	2		2	
Type of Lanes:	HMA Travel Lanes		HMA Travel Lanes	
Pavement Width:	24	ft.	24	ft.
Shoulder Width:	N/A	ft.	N/A	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

If the proposed action has multiple roadways, this section should be filled out for each roadway.

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): 224-02-01546/NBI 29120 (Existing) 224-01-10306/NBI 29120 (Proposed) Sufficiency Rating: 83.9/100 (June 22, 2018 Inspection Report)
 (Rating, Source of Information)

Existing Proposed

Bridge Type:	Concrete Arch Bridge		Concrete Slab Bridge	
Number of Spans:	1		3	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	36.7	ft.	40.7	ft.
Outside to Outside Width:	40	ft.	43.5	ft.
Shoulder Width:	3	ft.	6-8.3	ft.
Length of Channel Work:			143	ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: This project involves the replacement of the existing bridge (224-01-01546, NBI 29120) with a new three-span bridge (Bridge Number 224-01-10306). The existing bridge was constructed in 1936 and has not been rehabilitated to date. The bridge is not listed as select or non-select in the INDOT Bridge Inventory Collection.

Work will occur on three pipes within the project area. The existing Structure 10 that conveys UNT 3 west toward Holthouse Ditch and is 145 feet in length will be removed. A new pipe that is 90 feet in length will be installed adjacent to the existing pipe location. Structure 11 is a drainage culvert that conveys UNT 2 under a private drive on the north side of US 224 that is 35 feet in length and will be removed. A new structure that is 50 feet in length will be installed as part of the drive reconstruction. One pipe that is 12 feet in length was identified south of US 224 during the survey phase of the project but is buried. This pipe will be removed, and no replacement pipe will be installed.

The work to be completed on the bridge and the two pipes are indicated in the plans in Appendix B, pages 10 to 22. No other bridges or small structures are located within the project area.

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Yes **No** **N/A**

Will the structure be rehabilitated or replaced as part of the project?
If the proposed action has multiple bridges or small structures, this section should be filled out for each structure.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a temporary roadway proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for access by local traffic and so posted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for through-traffic dependent businesses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made to accommodate any local special events or festivals.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed MOT substantially change the environmental consequences of the action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there substantial controversy associated with the proposed method for MOT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: The MOT for the project will require a full closure of the bridge and a detour. The official detour route will utilize US 27, SR 124, and SR 301 and will be approximately 19.5 miles in length. The detour will be required for the duration of construction which is anticipated to be approximately 120 days in length. Signage notifying motorists of the bridge closure will be placed east and west of the existing bridge. The intersection of US 224 and CR 100 West will remain open for the duration of construction.

The closure will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion. Delays will occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 175,000 (2019) Right-of-Way: \$ 10,000 (2021) Construction: \$ 807,186 (2022)
 (The Project Manager will update the STIP cost after the project development process)

Anticipated Start Date of Construction: Spring 2022

Date project incorporated into STIP June 17, 2019, Amendment 18-02 (2018 – 2021 STIP, Appendix H, page 1)
January 24, 2020 Amendment 20-13 (2020 – 2024 STIP, Appendix H, page 2)

Is the project in an MPO Area? **Yes** **No**

If yes,
 Name of MPO N/A
 Location of Project in TIP N/A
 Date of incorporation by reference into the STIP N/A

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RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.24	0.10
Agricultural	0.36	0.02
Forest	0.17	0.00
TOTAL	0.77	0.12

Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition or reacquisition, either known or suspected, and there impacts on the environmental analysis should be discussed.

Remarks: The existing ROW along US 224 extends approximately 15 feet from the centerline of pavement throughout the project corridor for a total width of 30 feet. The ROW along CR 100 West varies from none outside of the pavement to approximately 10 feet from the edge of pavement for a total width of 45 feet.

The project requires approximately 0.77 acre of permanent ROW from residential, agricultural, and forested property. The project also requires approximately 0.12 acre of temporary ROW from residential and agricultural property. The proposed right of way widths will be a maximum of 155 feet.

If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

Part III – Identification and Evaluation of Impacts of the Proposed Action

SECTION A – ECOLOGICAL RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Streams, Rivers, Watercourses & Jurisdictional Ditches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Federal Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Natural, Scenic or Recreational Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nationwide Rivers Inventory (NRI) listed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outstanding Rivers List for Indiana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Navigable Waterways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, the 2016 aerial map of the project area (Appendix B, page 3), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page 9), there are six streams located within the 0.5 mile search radius. There are four streams present within or adjacent to the project area. One of the streams, Holthouse Ditch, is an Indiana Department of Environmental Management (IDEM) 303d impaired stream that is listed for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing and limit personal exposure.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on November 4, 2019. Please refer to Appendix F, pages 1 to 33 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that Holthouse Ditch is considered a likely jurisdictional water feature within the project area. Three additional unnamed tributaries (UNT) (UNT 1, 2 and 3) to Holthouse Ditch

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were identified in the investigated area and they are also likely Waters of the US. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

No Federal, Wild and Scenic Rivers; State Natural, Scenic, and Recreational Rivers; Outstanding Rivers for Indiana; navigable waterways or National Rivers Inventory waterways are present in the project area. Holthouse Ditch will be impacted by the project through construction of the new bridge and placement of riprap for scour protection. UNT 1, 2, and 3 will be impacted for the placement of fill, and UNT 3 will be impacted by the installation of a pipe. Holthouse Ditch will be temporarily impacted by a cofferdam with a dewatering pump to complete construction. The table below details the impacts to jurisdictional water features in the project area that have been estimated by the project engineer based on the current design.

Feature	Location	Permanent Impacts
Holthouse Ditch	Through project bridge	143 linear feet
UNT 1 to Holthouse Ditch	Southwest bridge quadrant	84 linear feet
UNT 2 to Holthouse Ditch	Northeast bridge quadrant	212 linear feet
UNT 3 to Holthouse Ditch	Southeast bridge quadrant	361 linear feet
		Total: 800 linear feet

An IDEM Section 401 Individual Permit (IP) and a USACE Section 404 Regional General Permit (RGP) will be required for impacts to these waterways. Impacts are anticipated to be greater than the 300 linear feet/0.1 acre threshold; therefore, mitigation will be required for these impacts. Mitigation will be a condition of the approved permits from IDEM and the USACE.

Early coordination letters were sent to the USACE, US Fish and Wildlife Service (USFWS), Indiana Department of Natural Resources (IDNR), and IDEM on February 7, 2019. USACE did not respond to the early coordination letter. The USFWS responded on February 15, 2019 but did not comment on impacts to waterways (Appendix C, page 7). IDNR responded on March 8, 2019 with recommendations to minimize channel disturbance, to avoid working during the fish spawning season (April 1 to June 30) without consent from the IDNR, to not excavate in the low flow area except for the removal and replacement of bridge elements or for placement of riprap, to not construct temporary causeways, to operate the equipment needed to replace the bridge from the existing roadway, to not use concrete as riprap, to use at least 6 inch stone for riprap and extend it below the OHWM for habitat, to place aggregate or geotextiles under the riprap to prevent soils from moving, to minimize the movement of resuspended bottom sediment, to not allow construction or demolition materials to enter the waterway, and to implement erosion control measures to prevent sediment from entering the waterway (Appendix C, pages 8 to 11). IDEM responded on December 4, 2019 with standard recommendations to obtain the necessary permits to work within waterways, and limit the physical disturbance of riparian vegetation (Appendix C, pages 15 to 19). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

Other Surface Waters	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Reservoirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farm Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Detention Basins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water Management Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, the 2016 aerial map of the project area (Appendix B, page 3), and the water resources map in the RFI report (Appendix E, page 9), there are four lakes located within the 0.5 mile search radius, with the closest being approximately 0.11 mile west of the project area and outside of the construction limits. There are no other surface waters present within or adjacent to the project area, therefore, no impacts are expected.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on November 4, 2019. Please refer to Appendix F, pages 1 to 33 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no other surface waters are within the project area.

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The USACE makes all final determinations regarding jurisdiction. Early coordination letters were sent to USACE, USFWS, IDNR, and IDEM on February 7, 2019. USACE did not respond to the early coordination letter. USFWS responded on February 15, 2019 but did not offer any recommendations about other surface waters (Appendix C, page 7). The IDNR responded on March 8, 2019 but did not include any recommendations for other surface waters (Appendix C, pages 8 to 11). IDEM responded on December 4, 2019 with recommendations to obtain the proper permits for impacts to other surface waters (Appendix C, pages 15 to 19). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

	Presence	Impacts	
Wetlands	<input type="checkbox"/>	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Total wetland area: 0.0 acre(s) Total wetland area impacted: 0.0 acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

	Documentation	ES Approval Dates
Wetlands (Mark all that apply)		
Wetland Determination	<input checked="" type="checkbox"/>	November 4, 2019
Wetland Delineation	<input type="checkbox"/>	
USACE Isolated Waters Determination	<input type="checkbox"/>	
Mitigation Plan	<input type="checkbox"/>	

Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain):

- Substantial adverse impacts to adjacent homes, business or other improved properties;
- Substantially increased project costs;
- Unique engineering, traffic, maintenance, or safety problems;
- Substantial adverse social, economic, or environmental impacts, or
- The project not meeting the identified needs.

Measures to avoid, minimize, and mitigate wetland impacts need to be discussed in the remarks box.

Remarks: Based on a review of the National Wetlands Inventory (NWI) online mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, the US Geological Survey (USGS) topographic map (Appendix B page 2), and the RFI report (Appendix E, page 9), ten wetlands are located within the 0.5 mile search radius. No wetlands are present within or adjacent to the project area, therefore, no impacts are expected.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office approved on November 4, 2019. Please refer to Appendix F, pages 1 to 33 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no jurisdictional or isolated wetlands were present within the project area. The USACE makes all final determinations regarding jurisdiction.

Early coordination letters were sent to the USACE, USFWS, IDNR, and IDEM on February 7, 2019. USACE did not respond to the early coordination letter. USFWS responded on February 15, 2019 but did not have any recommendations regarding wetlands (Appendix C, page 7). The IDNR responded on March 8, 2019 with a recommendation to not excavate or place fill in any riparian wetlands, and to mitigate any impacts to wetlands (Appendix C, pages 8 to 11). IDEM responded on December 4, 2019 with a standard automated letter that stated that the proper permits must be obtained for work within wetlands (Appendix C, pages 15 to 19). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

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	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Terrestrial Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unique or High Quality Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify each type of habitat and the acres impacted (i.e. forested, grassland, farmland, lawn, etc).

Remarks: Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, and the 2016 aerial map of the project area (Appendix B, page 3), there are areas of riparian floodplain habitat within the project area. The majority of the project area occurs within the floodplain of Holthouse Ditch, with dominant trees of Green Ash (*Fraxinus pennsylvanica*), Cottonwood (*Populus deltoides*), and Sugar Maple (*Acer saccharum*). Various emergent plants are located beyond the forested riparian area within the floodplain of Holthouse Ditch. Vegetation that is common along roadsides, in maintained lawns, and along roadsides is present beyond the immediate project area. The project will include removal of approximately 0.66 acre of trees for construction access and construction of the new bridge. Tree removal will not affect the line of trees that provide shielding to the barn southwest of the project area described in the Minor Projects Programmatic Agreement (MPPA) documentation (Appendix D, pages 1 to 4). The total work area will temporarily impact approximately 2.0 acres of terrestrial habitat. All temporary access will cease upon project completion. Total avoidance of impacts to terrestrial impacts would not allow for construction of the new bridge. Mitigation for impacts to terrestrial habitat are anticipated to be necessary as a condition of a Construction in a Floodway permit, which will be required for this project. Mitigation that will be required will likely be revegetation of all disturbed areas and planting of trees within the riparian area of Holthouse Ditch. All temporarily disturbed terrestrial habitat will be revegetated with a standard INDOT seed mix upon completion of construction.

Early coordination letters were sent to the USACE, USFWS, IDNR, and IDEM on February 7, 2019. The USACE did not respond to the early coordination letter. The USFWS responded on February 15, 2019 but did not offer any recommendations to avoid or minimize impacts to terrestrial habitat Appendix C, page 7). The IDNR responded on March 8, 2019 with recommendations to minimize and mitigate for impacts within the floodplain of Holthouse Ditch and to revegetate all disturbed areas upon completion of the project (Appendix C, pages 8 to 11). IDEM responded on December 4, 2019 with a standard automated letter and recommended obtaining the proper permits for any impacts to terrestrial habitat (Appendix C, pages 15 to 19). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

Karst	<u>Yes</u>	<u>No</u>
Is the proposed project located within or adjacent to the potential Karst Area of Indiana?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are karst features located within or adjacent to the footprint of the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, will the project impact any of these karst features?	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks: Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the USGS topographic map of the project area (Appendix B, page 2) and the RFI report (Appendix E, page 9), there are no karst features identified within or adjacent to the project area. In the early coordination response on December 4, 2019, the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C, pages 12 to 14). The IGS indicated that there is moderate liquefaction potential, the project occurs within a floodway, there is high potential for bedrock resources, and there is low potential for sand and gravel resources. The features will not be affected because there are no bedrock, sand, or gravel extraction sites within the project area and future extraction operations are unlikely to occur within the project area. The response from IGS has been communicated with the designer on January 6, 2019. No impacts are expected.

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	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Threatened or Endangered Species			
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is Section 7 formal consultation required for this action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Remarks: Based on a desktop review and the RFI report (Appendix E, pages 4 to 5), completed by Green 3 staff on February 14, 2019, the IDNR Adams County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix E, page 12). The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR early coordination response letter dated March 8, 2019 (Appendix C, pages 8 to 11), the Natural Heritage Program's Database has been checked and to date, no federally threatened or endangered species have been documented in the project area.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated on December 5, 2019 (Appendix C, page 22 to 27). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area other than the Indiana bat and northern long-eared bat.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on December 9, 2019, and based on the responses provided, the project was found to "May effect, not likely to adversely affect" the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on December 9, 2019 and requested USFWS's review of the finding (Appendix C, page 28). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section of this document.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

SECTION B – OTHER RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Drinking Water Resources			
Wellhead Protection Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Water System(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Residential Well(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sole Source Aquifer (SSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?	<input type="checkbox"/>	<input type="checkbox"/>
Is the FHWA/EPA SSA MOU Applicable?	<input type="checkbox"/>	<input type="checkbox"/>
Initial Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>
Detailed Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>

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Remarks: The project is located in Adams County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. Therefore a detailed groundwater assessment is not needed and no impacts are expected.

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on December 4, 2019 by Green 3 staff. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on December 4, 2019 by Green 3 staff. The nearest water well is northwest of the project area. This feature will not be affected because it is outside of the anticipated construction area. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells are affected, a cost to cure will likely be included in the appraisal to restore the wells.

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Green 3 staff on February 14, 2019, and the RFI report (Appendix E, page 10); this project is located in an Urban Area Boundary (UAB) location. An early coordination letter was sent on February 7, 2019 to the Decatur MS4 coordinator. The MS4 coordinator did not respond within the 30-day time frame.

Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, and the 2016 aerial map of the project area (Appendix B, page 3), this project is located where there is a public water system. The public water system will not be affected because the project will not permanently change the public water system. Any disruptions to public water systems that may occur will cease upon project completion. Early coordination letters were sent on February 7, 2019 to City of Decatur officials. No responses were received within the 30-day time frame.

Flood Plains

- Longitudinal Encroachment
- Transverse Encroachment
- Project located within a regulated floodplain
- Homes located in floodplain within 1000' up/downstream from project

	Presence	Impacts	
		Yes	No
Longitudinal Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse Encroachment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Project located within a regulated floodplain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Homes located in floodplain within 1000' up/downstream from project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".

Remarks: Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrmmaps.dnr.in.gov/appsphp/fdms/>) by Green 3 staff on February 6, 2019, and the RFI report (Appendix E, page 9); this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix B, page 5). An early coordination letter was sent on February 7, 2019, to the Decatur Floodplain Administrator. The Decatur Floodplain Administrator did not respond within the 30-day time frame. This project qualifies as a Category 4 per the current INDOT CE Manual, which states "no homes are located within the base floodplain within 1,000 feet upstream and no homes are located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternatives will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans."

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Farmland	Presence	Impacts	
		Yes	No
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total Points (from Section VII of CPA-106/AD-1006* 148
**If 160 or greater, see CE Manual for guidance.*

See CE Manual for guidance to determine which NRCS form is appropriate for your project.

Remarks: Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, and the 2016 aerial map of the project area (Appendix B, page 3), the project will convert 0.36 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on February 7, 2019, to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 148 on the *NRCS-CPA-106/AD 1006 Form* (Appendix C, page 21). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance	A	3	December 11, 2019	<input type="checkbox"/>
	A	9	October 23, 2019	<input type="checkbox"/>
	B	12	October 23, 2019	<input type="checkbox"/>

**Eligible and/or Listed
Resource Present**

Results of Research

Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

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Documentation Prepared

Documentation (mark all that apply)

- Historic Properties Short Report
- Historic Property Report
- Archaeological Records Check/ Review
- Archaeological Phase Ia Survey Report
- Archaeological Phase Ic Survey Report
- Archaeological Phase II Investigation Report
- Archaeological Phase III Data Recovery
- APE, Eligibility and Effect Determination
- 800.11 Documentation

X
X

ES/FHWA Approval Date(s)
October 21, 2019
October 21, 2019

SHPO Approval Date(s)
N/A
N/A

Memorandum of Agreement (MOA)

MOA Signature Dates (List all signatories)

Describe all efforts to document cultural resources, including a detailed summary of the Section 106 process, using the categories outlined in the remarks box. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of paper(s) and the comment period deadline. Likewise include any further Section 106 work which must be completed at a later date, such as mitigation or deep trenching.

Remarks:

On October 23, 2019 the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Type 12 (replacement, widening, or raising the elevation of the superstructure on existing bridge, and bridge replacement projects) and Category A, Type 9 (installation, repair, or replacement of erosion control measures along roadways, waterways, and bridge piers within previously disturbed soils) under the Minor Projects Programmatic Agreement, (Appendix D, pages 1 to 4). On December 11, 2019, INDOT CRO determined that additional scope items fall within the guidelines of Category A, Type 3 (replacement, repair, lining, or extension of culverts and other drainage structures that do not exhibit wood, stone or brick structures or parts therein and are in previously disturbed soils). (Appendix D, page 5). An archaeological records check and Phase Ia archaeological survey was required for this project. The records check and survey indicated that no previously documented sites have been located within or adjacent to the project area and no sites were identified during the field check. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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SECTION D – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

Section 4(f) Involvement (mark all that apply)

Parks & Other Recreational Land

- Publicly owned park
- Publicly owned recreation area
- Other (school, state/national forest, bikeway, etc.)

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

Wildlife & Waterfowl Refuges

- National Wildlife Refuge
- National Natural Landmark
- State Wildlife Area
- State Nature Preserve

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

--

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

**FHWA approval of the environmental document also serves as approval of any Section 4f Programmatic and/or De minimis evaluation(s) discussed below.*

Discuss Programmatic Section 4(f) and “de minimis” Section 4(f) impacts in the remarks box below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, “de minimis” and Individual Section 4(f) evaluations please refer to the “Procedural Manual for the Preparation of Environmental Studies”. Discuss proposed alternatives that satisfy the requirements of Section 4(f).

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Remarks: Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife / waterfowl refuges, and NRHP eligible or listed historic properties regardless of ownership. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, the 2016 aerial map of the project area (Appendix B, page 3), and the RFI report (Appendix E, page 8) there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement Presence Use

Section 6(f) Property Yes No

Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.

Remarks: The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the INDOT Environmental Policy website at <https://www.in.gov/indot/2523.htm> revealed a total of eight properties in Adams County (Appendix I, page 1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project

	Yes	No
Is the project in an air quality non-attainment or maintenance area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If YES, then:		
Is the project in the most current MPO TIP?	<input type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input type="checkbox"/>	<input type="checkbox"/>
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	<input type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input type="checkbox"/>

Level of MSAT Analysis required?

Level 1a Level 1b Level 2 Level 3 Level 4 Level 5

Remarks: This project is included in the Fiscal Year (FY) 2018-2021 and FY 2020-2024 Statewide Transportation Improvement Program (STIP) (Appendix H, pages 1 to 2).

This project is located in Adams County, which is currently in attainment for all criteria pollutants according to the IDEM map of current nonattainment areas (https://www.in.gov/idem/airquality/files/nonattainment_areas_map.pdf). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required.

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SECTION F – NOISE

Noise **Yes** **No**
 Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?

	No	Yes/ Date
ES Review of Noise Analysis	X	

Remarks: This project is a Type III project. In accordance with 23 CFR 772 and the current *Indiana Department of Transportation Traffic Noise Analysis Procedure*, this action does not require a formal noise analysis.

SECTION G – COMMUNITY IMPACTS

	Yes	No
Regional, Community & Neighborhood Factors		
Will the proposed action comply with the local/regional development patterns for the area?	X	
Will the proposed action result in substantial impacts to community cohesion?		X
Will the proposed action result in substantial impacts to local tax base or property values?		X
Will construction activities impact community events (festivals, fairs, etc.)?		X
Does the community have an approved transition plan?	X	
If No, are steps being made to advance the community's transition plan?		
Does the project comply with the transition plan? (explain in the remarks box)	X	

Remarks: The new bridge is not anticipated to change the local or regional development patterns because it will not change the overall flow of traffic. Community cohesion and access to local businesses are not anticipated to be impacted because the new bridge will temporarily impact traffic due to the proposed detour, but access to surrounding properties and businesses will not be denied, and impacts will cease upon project completion. According to the website <https://www.fairsandfestivals.net/>, no known fairs or festivals will be occurring within 10 miles of the project area during the construction period. This project is consistent with the Decatur, Indiana ADA transition plan because there are no pedestrian facilities within the project area and none are proposed.

Indirect and Cumulative Impacts **Yes** **No**
 Will the proposed action result in substantial indirect or cumulative impacts?

Remarks: Indirect impacts are effects which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate. Cumulative impacts affect the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

This project will not cause any negative indirect or cumulative impacts from the construction of the new bridge. The project will have a net positive community impact by providing a continued crossing of US 224 over Holthouse Ditch. This project will not result in induced changes in the pattern of land use, the population density, or the growth rate of the area. The project will not result in indirect effects on air, water, or natural systems (direct effects on air, water, and natural systems have been discussed in previous sections of this document). This project will not result in incremental impacts to the environment nor will it result in cumulative impacts from collectively significant actions taking place over a period of time. In conclusion, this project will not result in indirect or cumulative impacts.

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Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks:

Based on a desktop review, a site visit on February 5, 2019 and July 10, 2019 by Green 3 staff, the 2016 aerial map of the project area (Appendix B, page 3), and the RFI report (Appendix E, page 8), there is one (1) religious facility, one (1) school, and three (3) pipelines within 0.5 mile of the project area. Additionally, there are various public utilities within the project area. The overhead electric lines on the south side of the road, the existing gas main on the south side of the road, and the existing communication lines on the north and south sides of the road will be relocated but will not be permanently impacted. Access to all properties will be maintained during construction. Therefore, no impacts are expected.

It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?
Does the project require an EJ analysis?

Yes	No
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

If YES, then:

Are any EJ populations located within the project area?

<input checked="" type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------

Will the project result in adversely high or disproportionate impacts to EJ populations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Remarks:

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent ROW. The project will require approximately 0.77 acre of permanent ROW and approximately 0.12 acre of temporary ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Adams County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 302 and Census Tract 304. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. The 2017 data was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on December 4, 2019 by Green 3 staff. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (2017 Census Data)			
	COC - Adams County	AC-1 - Census Tract 302, Adams County, Indiana	AC-2 - Census Tract 304, Adams County, Indiana
Percent Minority	6.3%	11.4%	5.7%
125% of COC	7.8%	AC < 125% COC	AC < 125% COC
EJ Population of Concern		Yes	No
Percent Low-Income	18.9%	25.9%	14.0%
125% of COC	23.6%	AC < 125% COC	AC < 125% COC
EJ Population of Concern		Yes	No

AC-1, Census Tract 302 has a percent minority of 11.4% which is below 50% and is above the 125% COC threshold. AC-2, Census Tract 304 has a percent minority of 5.7% which is below 50% and is below the 125% COC. Therefore, AC-1 is a minority population of EJ concern.

AC-1, Census Tract 302 has a percent low-income of 25.9% which is below 50% and is above the 125% COC threshold.

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AC-2, Census Tract 304 has a percent low-income of 14.0% which is below 50% and is below the 125% COC. Therefore, AC-1 is a low-income population of EJ concern.

ROW will be acquired from adjacent properties. No relocation will be necessary as a result of this ROW acquisition and community cohesion will not be affected. The EJ analysis was sent to the INDOT Environmental Services Division (ESD) on December 4, 2019. The INDOT ESD responded on December 5, 2019 and stated that the project requires ROW, no relocations, would not disrupt community cohesion or create a physical barrier. Maintenance of traffic will cause a temporary minor inconvenience for both EJ and non EJ populations (Appendix I, page 6). Therefore, no impacts to EJ populations are anticipated.

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?
 Is a Business Information Survey (BIS) required?
 Is a Conceptual Stage Relocation Study (CSRS) required?
 Has utility relocation coordination been initiated for this project?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Number of relocations: Residences: 0 Businesses: 0 Farms: 0 Other: 0

If a BIS or CSRS is required, discuss the results in the remarks box.

Remarks: No relocations of people, businesses, or farms will take place as a result of this project.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)
 Red Flag Investigation
 Phase I Environmental Site Assessment (Phase I ESA)
 Phase II Environmental Site Assessment (Phase II ESA)
 Design/Specifications for Remediation required?

Documentation

<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

	No	Yes/ Date
ES Review of Investigations	<input type="checkbox"/>	February 14, 2019

Include a summary of findings for each investigation.

Remarks: Based on a review of GIS and available public records, an RFI was completed on February 14, 2019 by Green 3 staff (Appendix E, pages 1 to 12). One (1) RCRA Generator/TSD, one (1) UST site, one (1) LUST site, and one (1) NPDES facility are located within 0.5 mile of the project area, but no sites are located within the project area that will impact the project. The nearest RCRA generator, UST site, LUST site, and NPDES facility are all related to the same site that is approximately 0.17 mile south of the project area. No impact from these sites are anticipated because all facilities appear to be in compliance in the most recent inspection reports. Coordination with INDOT Site Assessment and Management (SAM) was completed on February 19, 2020 to determine if further documentation would be required due to the age of the initial investigation. INDOT SAM indicated that no further documentation would be required (Appendix E, page 13). Further investigation for hazardous material concerns is not required at this time.

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SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)	<u>Likely Required</u>
Army Corps of Engineers (404/Section10 Permit)	
Individual Permit (IP)	<input type="checkbox"/>
Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input checked="" type="checkbox"/>
Pre-Construction Notification (PCN)	<input type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input checked="" type="checkbox"/>
IDEM	
Section 401 WQC	<input checked="" type="checkbox"/>
Isolated Wetlands determination	<input type="checkbox"/>
Rule 5	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input checked="" type="checkbox"/>
IDNR	
Construction in a Floodway	<input checked="" type="checkbox"/>
Navigable Waterway Permit	<input type="checkbox"/>
Lake Preservation Permit	<input type="checkbox"/>
Other	<input type="checkbox"/>
Mitigation Required	<input checked="" type="checkbox"/>
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the remarks box below)	
	<input type="checkbox"/>

Remarks: This project will likely require a USACE Section 404 RGP permit and an IDEM Section 401 IP for impacts for streams within the project area. Mitigation for impacts to streams is anticipated to be necessary because impacts are anticipated to be more 300 linear feet/0.1 acre. An IDEM Rule 5 permit will likely be required because the project area will be greater than 1 acre in area. An IDNR construction in a floodway permit will likely be required because the project occurs within a regulated floodplain. Mitigation for vegetation removal within the floodplain will likely be required. A county regulated drain permit is not anticipated to be required for this project.

Applicable recommendations provided by IDNR and IDEM are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all required permits.

SECTION J- ENVIRONMENTAL COMMITMENTS

The following information should be provided below: List all commitments, name of agency/organization requesting the commitment(s), and indicating which are firm and which are for further consideration. The commitments should be numbered.

Remarks: **Firm:**

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT Fort Wayne District)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD and INDOT Fort Wayne District)
3. General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat

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habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)

4. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
5. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
6. Tree Removal AMM 2: Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS)
7. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
8. Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year. (USFWS)

For Further Consideration:

9. If box or pipe culverts are used, the bottoms should be buried to a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankfull width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width/length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. (IDNR)
10. Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to the area and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. (IDNR)
11. Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to nonwetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10 inches dbh or greater (5:1 mitigation based on the number of large trees). (IDNR)
12. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting from April 1 through September 30. (IDNR)
13. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR)
14. Do not construct any temporary runarounds or causeways. (IDNR)
15. Operate equipment used to replace the bridge from the existing roadway. (IDNR)
16. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)
17. Workers who are working in or
18. near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. (INDOT SAM)

Indiana Department of Transportation

County Adams Route US 224 over Holthouse Ditch Des. No. 1701394

SECTION K- EARLY COORDINATION

Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received. INDOT and FHWA are automatically considered early coordination participants and should only be listed if a response is received.

Remarks: Early coordination letters were sent to agencies on February 7, 2019 (Appendix C, pages 1 to 3). An established deadline of 30 days was given for responses to be received by the agencies. Agencies that did not respond within the 30-day timeframe were assumed to have no comment on the project. A table of the agencies that were contacted and when they responded is located below.

Agency	Response Date
INDOT Public Involvement Office	February 7, 2019
FHWA	February 7, 2019
USFWS	February 15, 2019
IDNR	March 8, 2019
IGS	December 4, 2019
IDEM	December 4, 2019
USFWS IPaC Species List	December 5, 2019
INDOT IPaC Approval	December 9, 2019
USFWS IPaC Concurrence Letter	December 9, 2019
NRCS	May 4, 2020
National Park Service	No Response Received
US Department of Housing and Urban Development	No Response Received
USACE	No Response Received
Adams County Surveyor	No Response Received
Mayor of Decatur	No Response Received
Decatur Floodplain Administrator	No Response Received
Decatur MS4 Coordinator	No Response Received
Adams County Commissioners	No Response Received
Decatur City Council	No Response Received

Des No1701394 CE-2 Appendices

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Des 1701394 CE-2

Appendix A

CE Threshold Chart

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	"No Historic Properties Affected"	"No Adverse Effect"	-	"Adverse Effect" Or Historic Bridge involvement ²
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way³	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	"No Effect", "Not likely to Adversely Affect" (Without AMMs ⁴ or with AMMs required for all projects ⁵)	"Not likely to Adversely Affect" (With any other AMMs)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	"No Effect", "Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁶
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ⁷
Approval Level	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes	Yes
<ul style="list-style-type: none"> • District Env. Supervisor • Env. Services Division • FHWA 					Yes

¹Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

²Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

³Permanent and/or temporary right-of-way.

⁴AMMs = Avoidance and Mitigation Measures.

⁵AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User's Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as "required for all projects".

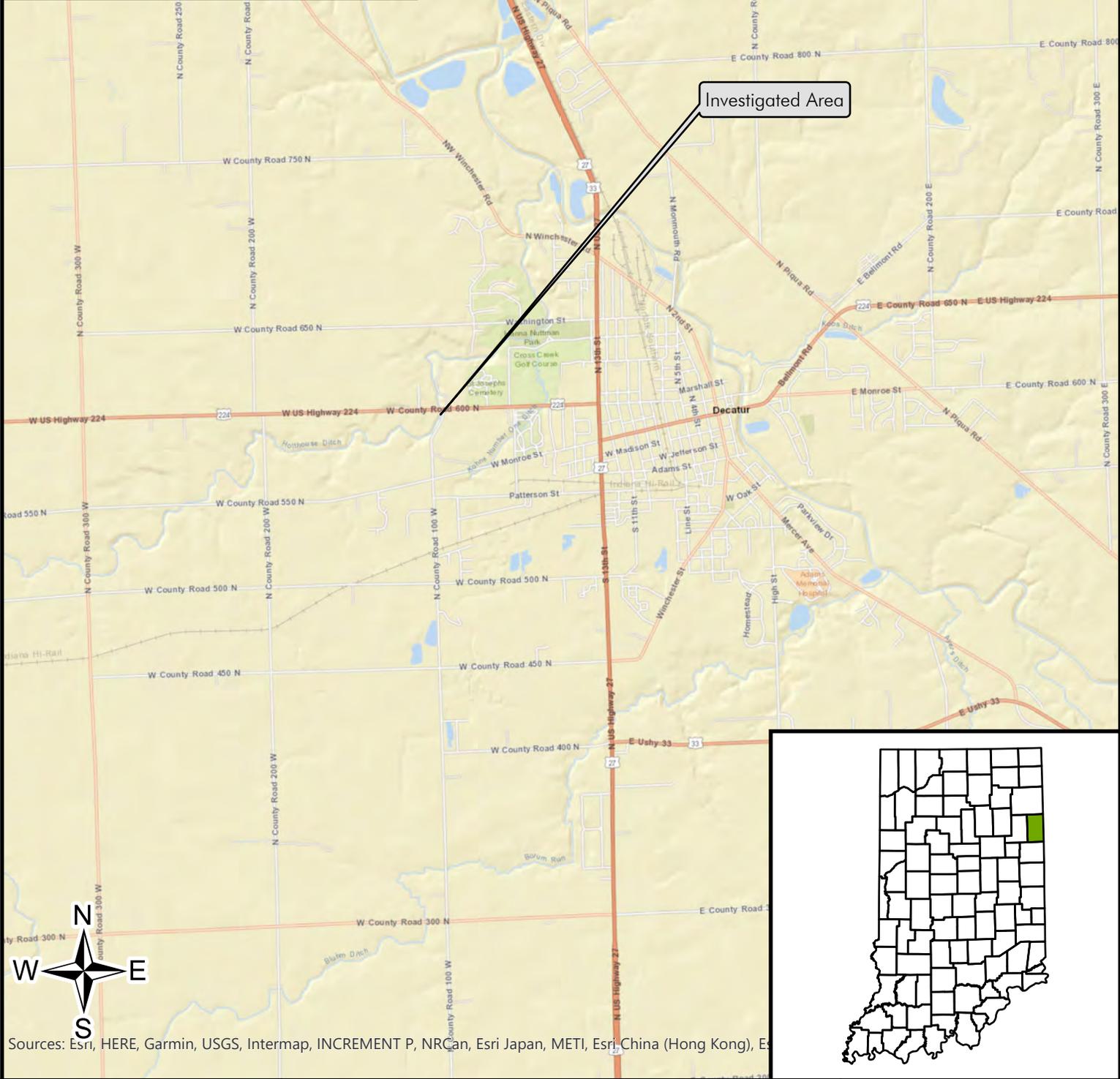
⁶Potential for causing a disproportionately high and adverse impact.

⁷Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

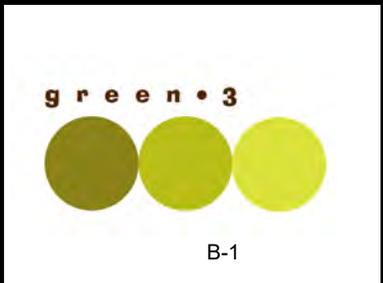
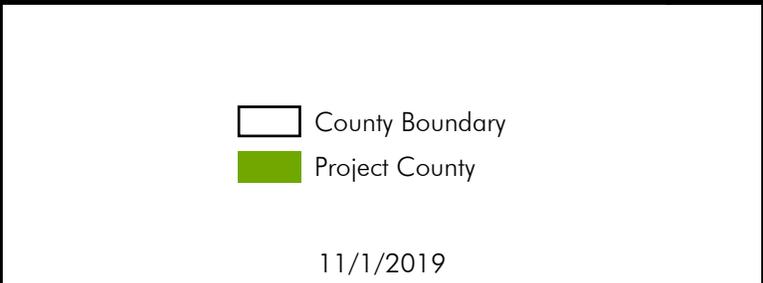
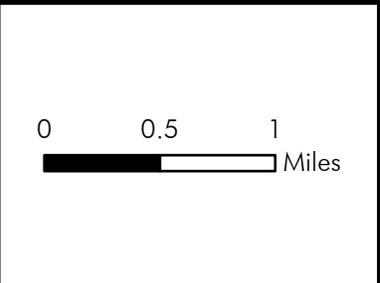
*Substantial public or agency controversy may require a higher-level NEPA document.

Des No 1701394 CE-2
Appendix B
Graphics and Plan Sheets

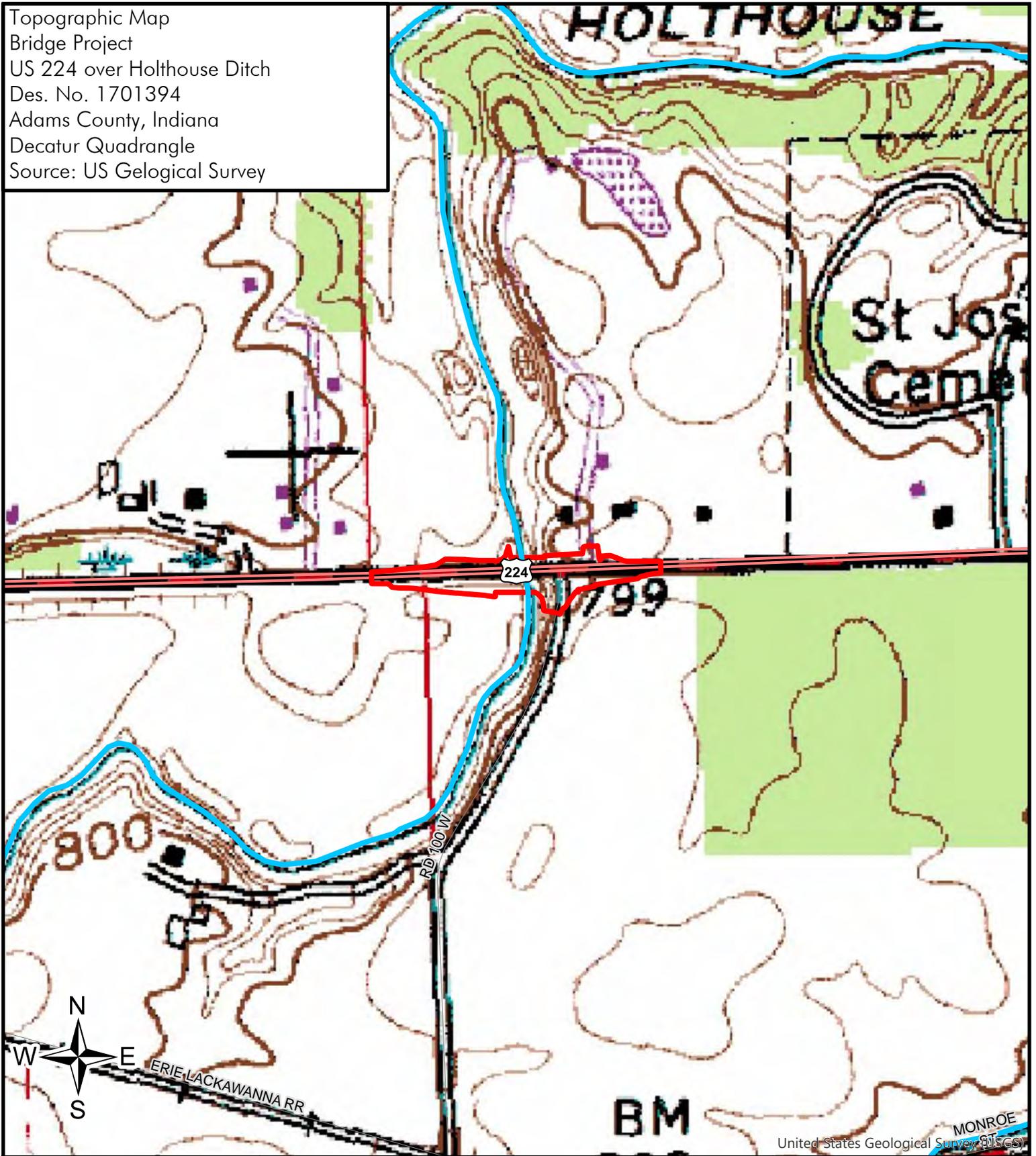
Investigated Area Map
 Bridge Project
 US 224 over Holthouse Ditch
 Des. No. 1701394
 Adams County, Indiana
 Source: US Geological Survey PLSS



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri, China (Hong Kong), Esri



Topographic Map
Bridge Project
US 224 over Holthouse Ditch
Des. No. 1701394
Adams County, Indiana
Decatur Quadrangle
Source: US Geological Survey



0 0.05 0.1
Miles

 Investigated Area
 NHD Flowline

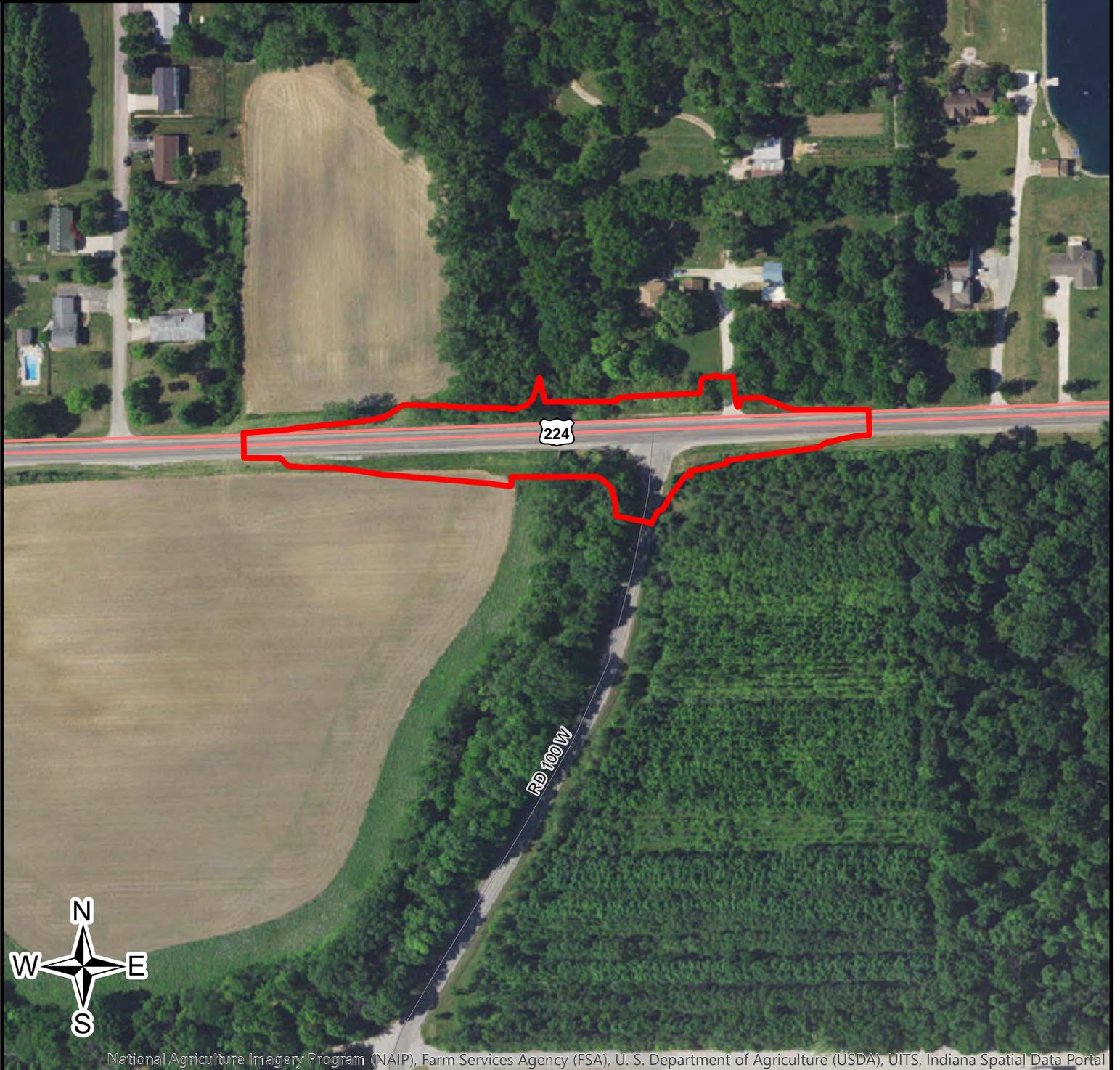
green • 3



10/10/2019

B-2

Aerial Map
Bridge Project
US 224 over Holthouse Ditch
Des. No. 1701394
Adams County, Indiana
Source: NAIP 2016 Imagery



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

0 0.03 0.05
Miles

 Investigated Area

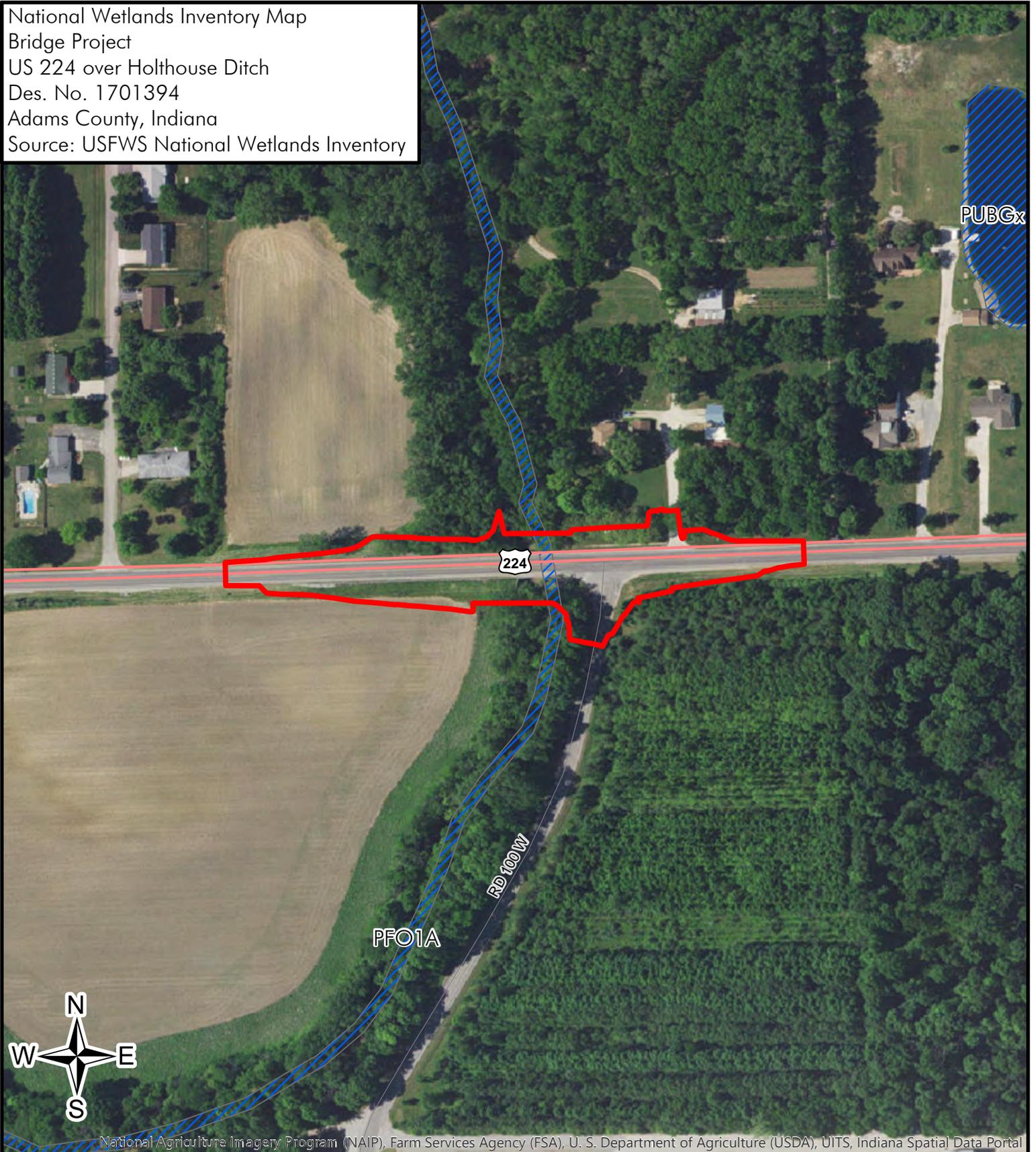
green • 3



10/10/2019

B-3

National Wetlands Inventory Map
Bridge Project
US 224 over Holthouse Ditch
Des. No. 1701394
Adams County, Indiana
Source: USFWS National Wetlands Inventory



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

0 0.03 0.05
Miles

 Investigated Area
 NWI Wetlands

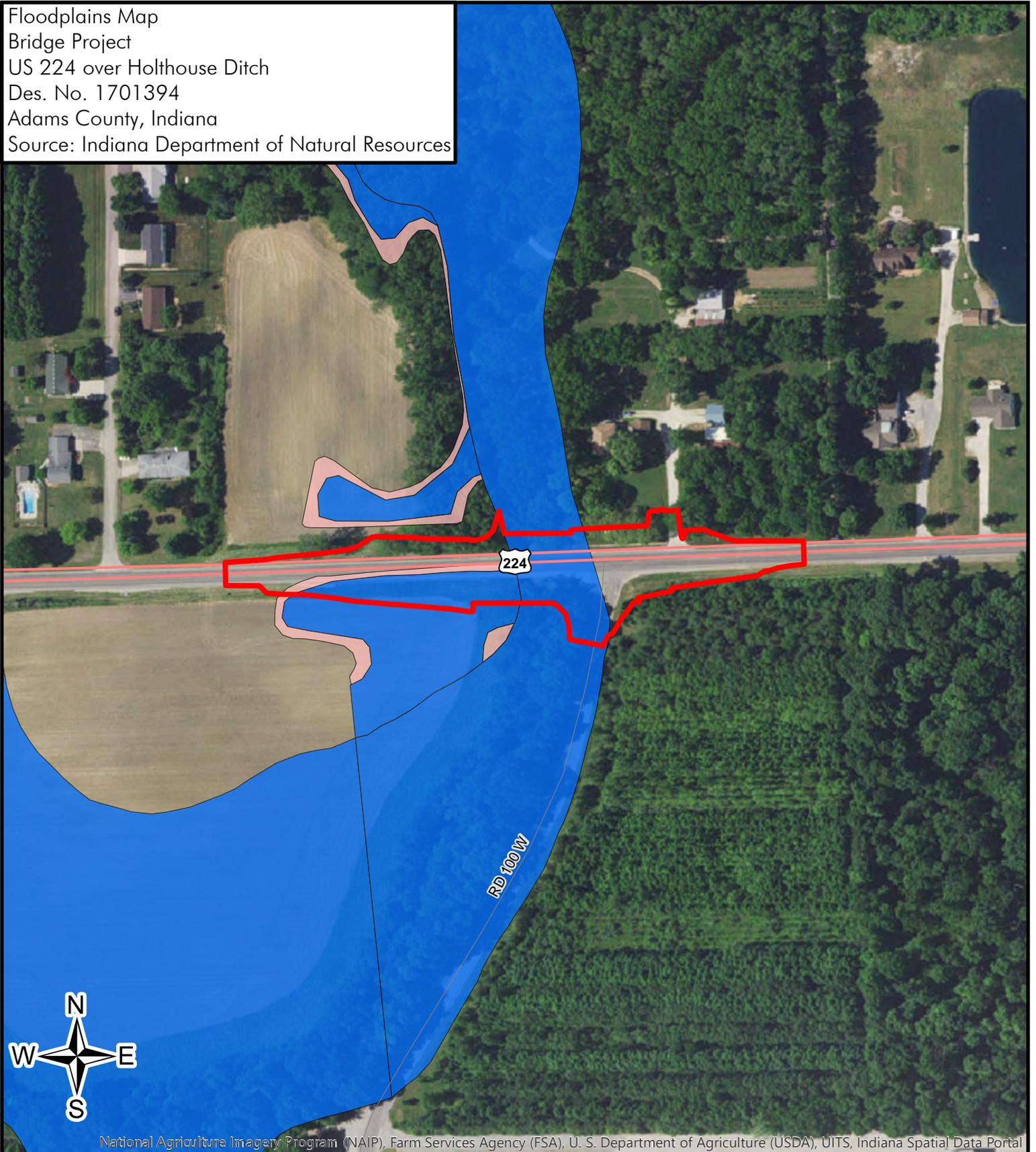
green • 3



10/10/2019

B-4

Floodplains Map
Bridge Project
US 224 over Holthouse Ditch
Des. No. 1701394
Adams County, Indiana
Source: Indiana Department of Natural Resources



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

0 0.03 0.05
Miles

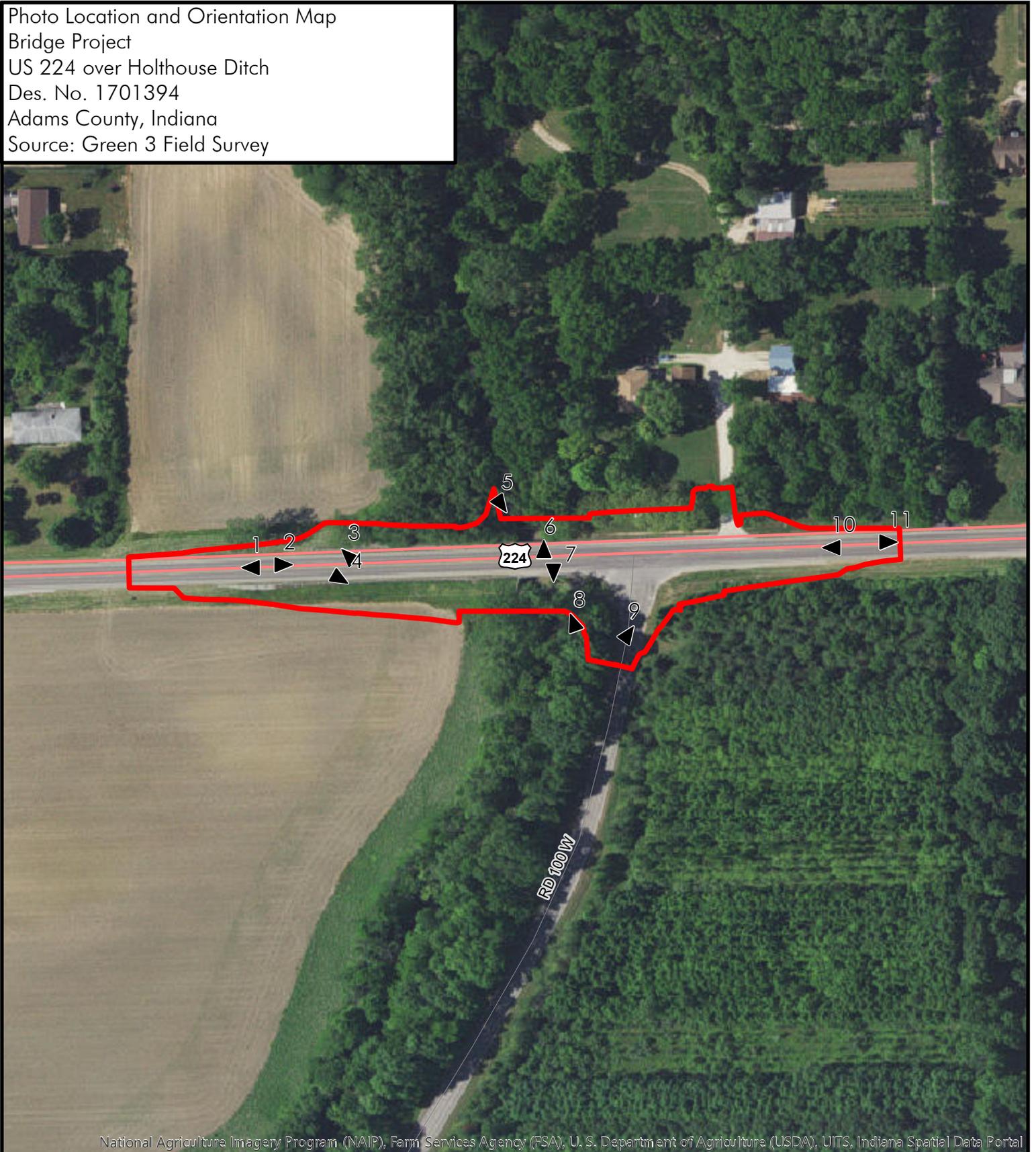
-  Investigated Area
-  0.2% Annual Chance Flood Hazard
-  1% Annual Chance Flood Hazard



10/10/2019

B-5

Photo Location and Orientation Map
Bridge Project
US 224 over Holthouse Ditch
Des. No. 1701394
Adams County, Indiana
Source: Green 3 Field Survey



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal



Scale 1:1,800
1 inch equals 150 feet

-  Project Location
-  Photo Location



B-6

3/10/2020



Photo 1. West Bridge Approach Facing West



Photo 3. Northwest Right of Way Facing Northwest



Photo 2. West Bridge Approach Facing East



Photo 4. Southwest Right of Way Facing Southeast



Photo 5. North Side Bridge over Holhouse Ditch Facing Southeast



Photo 7. Holhouse Ditch Facing South (Upstream)



Photo 6. Holhouse Ditch Facing North (Downstream)



Photo 8. South Side Bridge over Holhouse Ditch Facing Northwest



Photo 9. CR 100 W and SR 224 Intersection Facing North



Photo 11. East Bridge Approach Facing East



Photo 10. East Bridge Approach Facing West

PROJECT	DESIGNATION
1701394	1701394
CONTRACT	BRIDGE FILE
B-42474	224-01-10306

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
224-01-10306	CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE	3 SPANS: 31'-0", 38'-0", 31'-0" SKEW 10° LT.	HOLTHOUSE DITCH	1051+80.60 "A"

INDIANA DEPARTMENT OF TRANSPORTATION



BRIDGE PLANS

FOR SPANS OVER 20 FEET

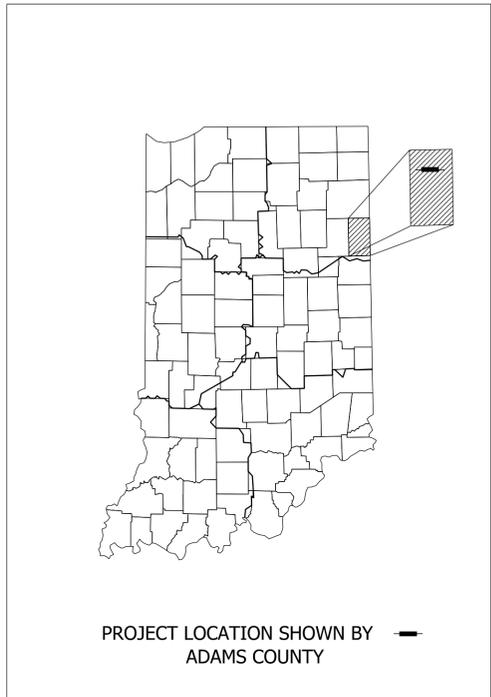
ROUTE: U.S. 224 OVER HOLTHOUSE DITCH AT: RP 31+00

PROJECT NO. 1701394 P.E.
1701394 R/W
1701394 CONST.

Bridge Replacement On U.S. 224 over Holthouse Ditch Located 0.95 Miles West of U.S. 27, In Section 4, T-27-N, R-14-E, Washington Township and Section 33, T-28-N, R-14-E, Root Township, Adams County, Indiana

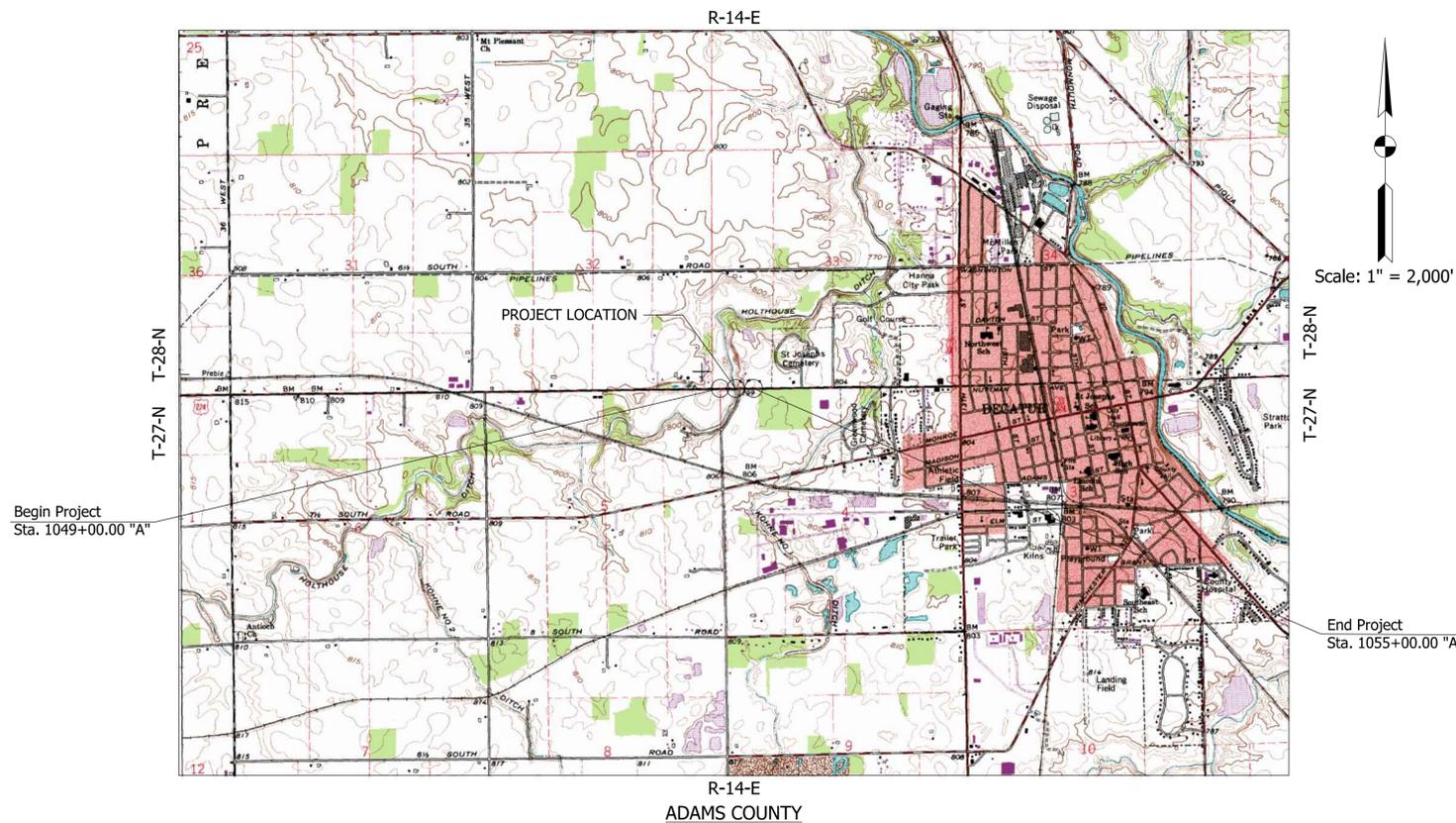
Some plan sheets have been removed to conserve size.
The full plan set can be made available upon request.

TRAFFIC DATA		
A.A.D.T. (2022)		4320 V.P.D.
A.A.D.T. (2042)		5140 V.P.D.
D.H.V. (2038)		8.95 V.P.H.
DIRECTIONAL DISTRIBUTION		51.18 %
TRUCKS		18.16 % A.A.D.T. 18.36 % D.H.V.
DESIGN DATA		
DESIGN SPEED		55 M.P.H.
PROJECT DESIGN CRITERIA		3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION		Minor Arterial
RURAL/URBAN		Urban
TERRAIN		Level
ACCESS CONTROL		None



LATITUDE: 40°49'56" N LONGITUDE: 84°57'20" W

BRIDGE LENGTH:	0.028	MI.
ROADWAY LENGTH:	0.086	MI.
TOTAL LENGTH:	0.114	MI.
MAX. GRADE:	-5.92%	%



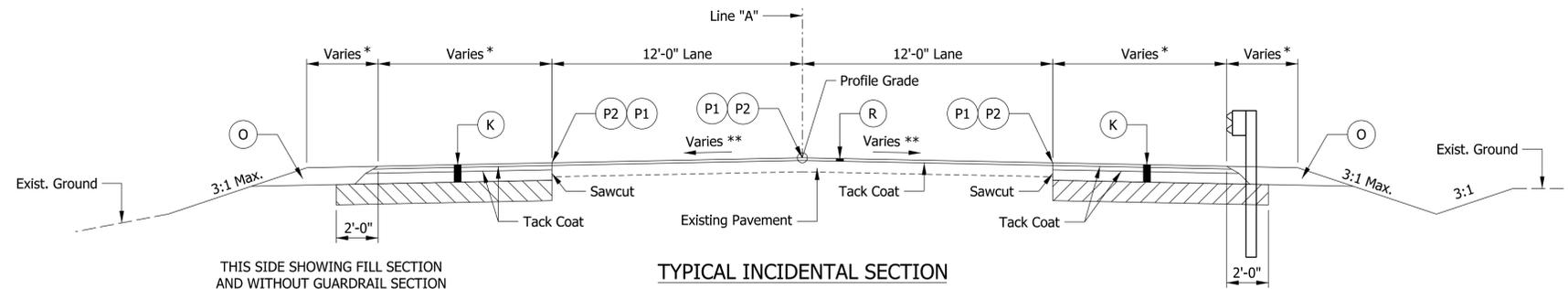
Plans Prepared By:

SJCA P.C.
ENGINEERS & SURVEYORS
9102 North Meridian Street, Suite 200, Indianapolis, IN 46260
Phone: (317) 566-0629
Website: www.sjca-pc.com

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2020
TO BE USED WITH THESE PLANS.

PLANS PREPARED BY:	SJCA, P.C.	(317) 566-0629 PHONE NUMBER
CERTIFIED BY:		DATE
APPROVED FOR LETTING:	INDIANA DEPARTMENT OF TRANSPORTATION	DATE

BRIDGE FILE	
224-01-10306	
DESIGNATION	
1701394	
SURVEY BOOK	SHEETS
ELECTRONIC	1 of 30
CONTRACT	PROJECT
B-42474	1701394



THIS SIDE SHOWING FILL SECTION AND WITHOUT GUARDRAIL SECTION

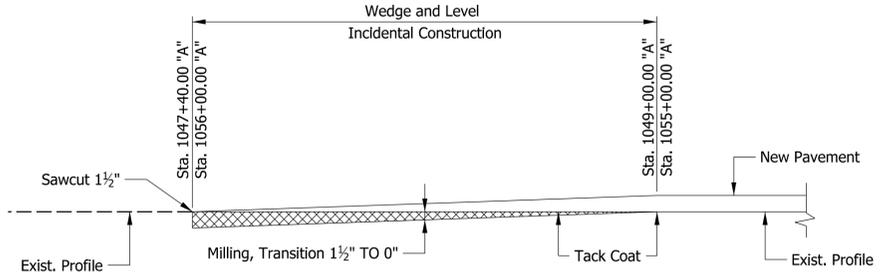
TYPICAL INCIDENTAL SECTION

Scale: 1/4" = 1'-0"

Sta. 1047+40.00 "A" to Sta. 1049+00.00 "A"
Sta. 1055+00.00 "A" to Sta. 1056+00.00 "A"

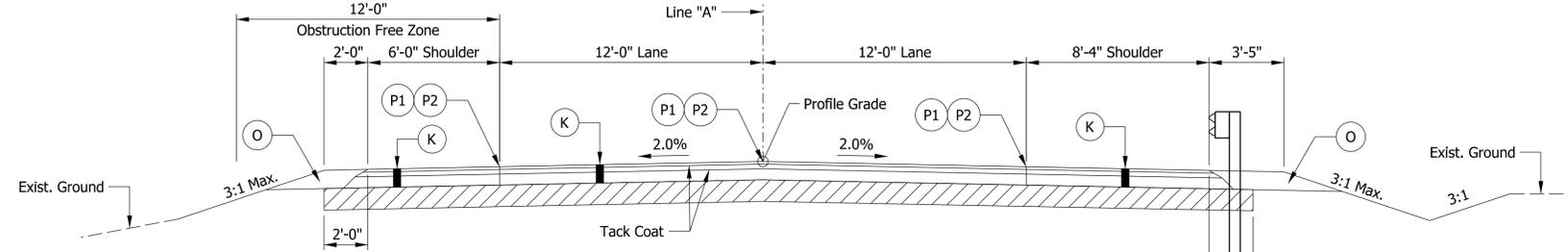
THIS SIDE SHOWING DITCH SECTION AND WITH GUARDRAIL SECTION

* - See Construction Details
** - Cross Slope Varies from 2.0% to Match Exist.



ASPHALT WEDGE & LEVEL DETAIL

Not to Scale



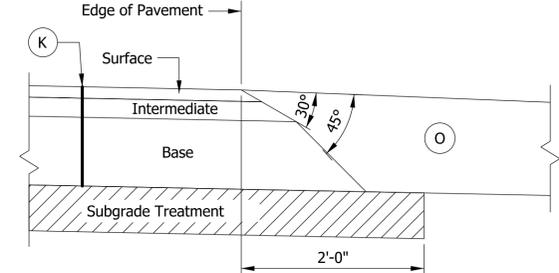
THIS SIDE SHOWING FILL SECTION AND WITHOUT GUARDRAIL SECTION

TYPICAL FULL-DEPTH PAVEMENT SECTION

Scale: 1/4" = 1'-0"

Sta. 1049+00.00 "A" to Sta. 1051+05.81 "A"
Sta. 1052+55.39 "A" to Sta. 1055+00.00 "A"

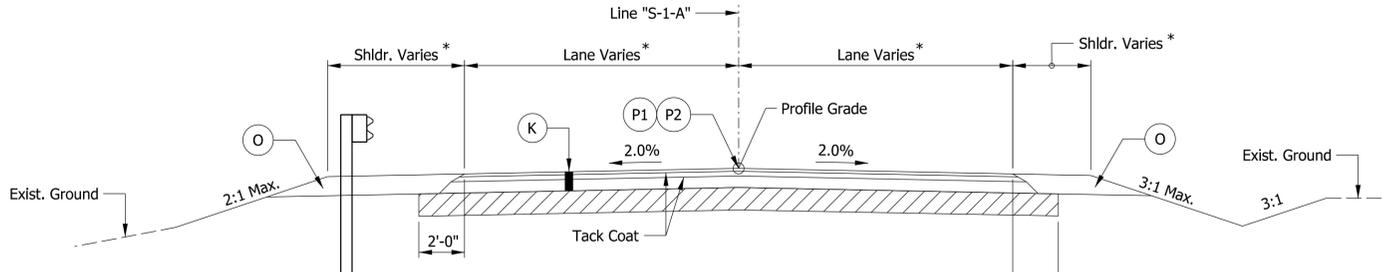
THIS SIDE SHOWING DITCH SECTION AND WITH GUARDRAIL SECTION



SAFETY EDGE DETAIL

Not to Scale

Paving Exception From Sta. 1051+05.81 "A" to Sta. 1052+55.39 "A"



THIS SIDE SHOWING FILL SECTION AND WITH GUARDRAIL SECTION

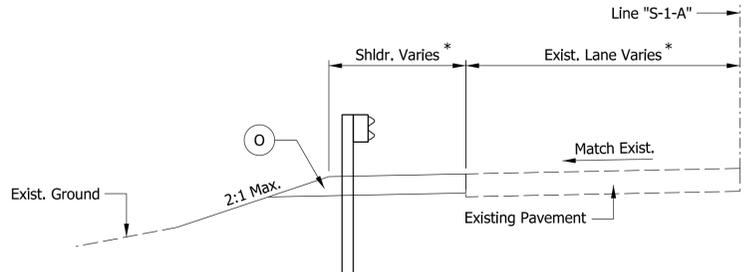
TYPICAL FULL-DEPTH PAVEMENT SECTION

Scale: 1/4" = 1'-0"

Sta. 03+73.00 "S-1-A" to Sta. 04+79.35 "S-1-A"

THIS SIDE SHOWING DITCH SECTION

* - See Construction Details



TYPICAL INCIDENTAL SECTION

Scale: 1/4" = 1'-0"

Sta. 02+83.00 "S-1-A" to Sta. 03+73.00 "S-1-A"

* - See Construction Details

NOTE TO REVIEWER
Pavement sections are preliminary and will be revised to match the pavement design for the next submittal.

LEGEND

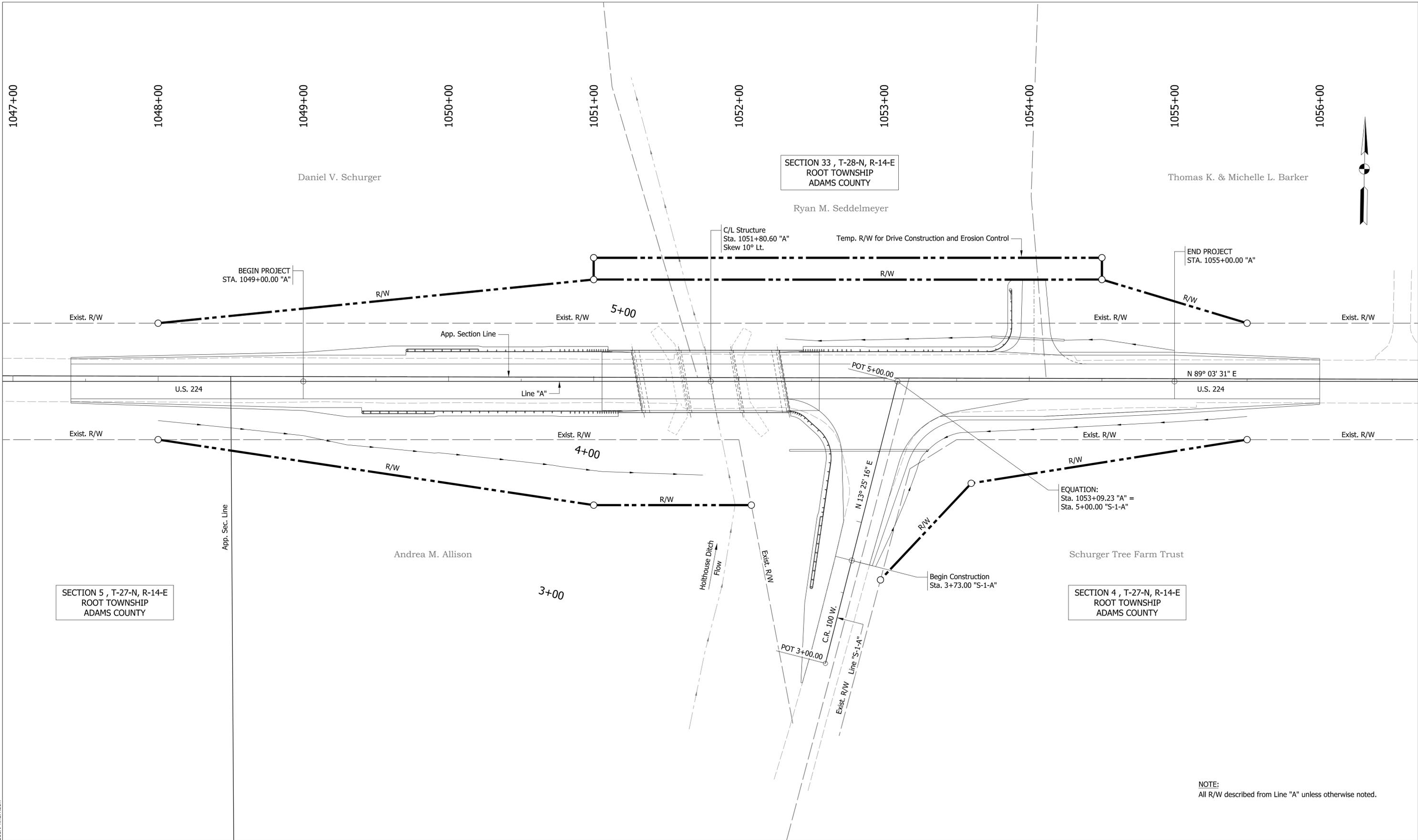
- (K) 165 lbs/syd QC/QA-HMA, 3, 70, Surface, 9.5mm on 385 lbs/syd QC/QA-HMA, 3, 70, Intermediate, 19.0mm on 440 lbs/syd QC/QA-HMA, 3, 70, Base, 19.0mm on Subgrade Treatment, Type 1C
- (R) 165 lbs/syd QC/QA-HMA, 3, 70, Surface, 9.5mm on Milling, Asphalt, 1 1/2"
- (O) Variable depth Compacted Aggregate, No. 53 (10" max.)
- (P1) Joint adhesive required for Surface and Intermediate layers at longitudinal joints
- (P2) Liquid asphalt sealant required on Surface layer over longitudinal joint, 24" width

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: PFC	DRAWN: PFC	
CHECKED: MJM	CHECKED: MJM	

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	224-01-10306
VERTICAL SCALE	DESIGNATION
AS NOTED	1701394
SURVEY BOOK	SHEETS
ELECTRONIC	3 of 30
CONTRACT	PROJECT
B-42474	1701394



SECTION 33 , T-28-N, R-14-E
ROOT TOWNSHIP
ADAMS COUNTY

Daniel V. Schurger

Thomas K. & Michelle L. Barker

Ryan M. Seddelmeyer

BEGIN PROJECT
STA. 1049+00.00 "A"

END PROJECT
STA. 1055+00.00 "A"

C/L Structure
Sta. 1051+80.60 "A"
Skew 10° Lt.

Temp. R/W for Drive Construction and Erosion Control

U.S. 224

U.S. 224

Line "A"

EQUATION:
Sta. 1053+09.23 "A" =
Sta. 5+00.00 "S-1-A"

Begin Construction
Sta. 3+73.00 "S-1-A"

SECTION 5 , T-27-N, R-14-E
ROOT TOWNSHIP
ADAMS COUNTY

SECTION 4 , T-27-N, R-14-E
ROOT TOWNSHIP
ADAMS COUNTY

NOTE:
All R/W described from Line "A" unless otherwise noted.

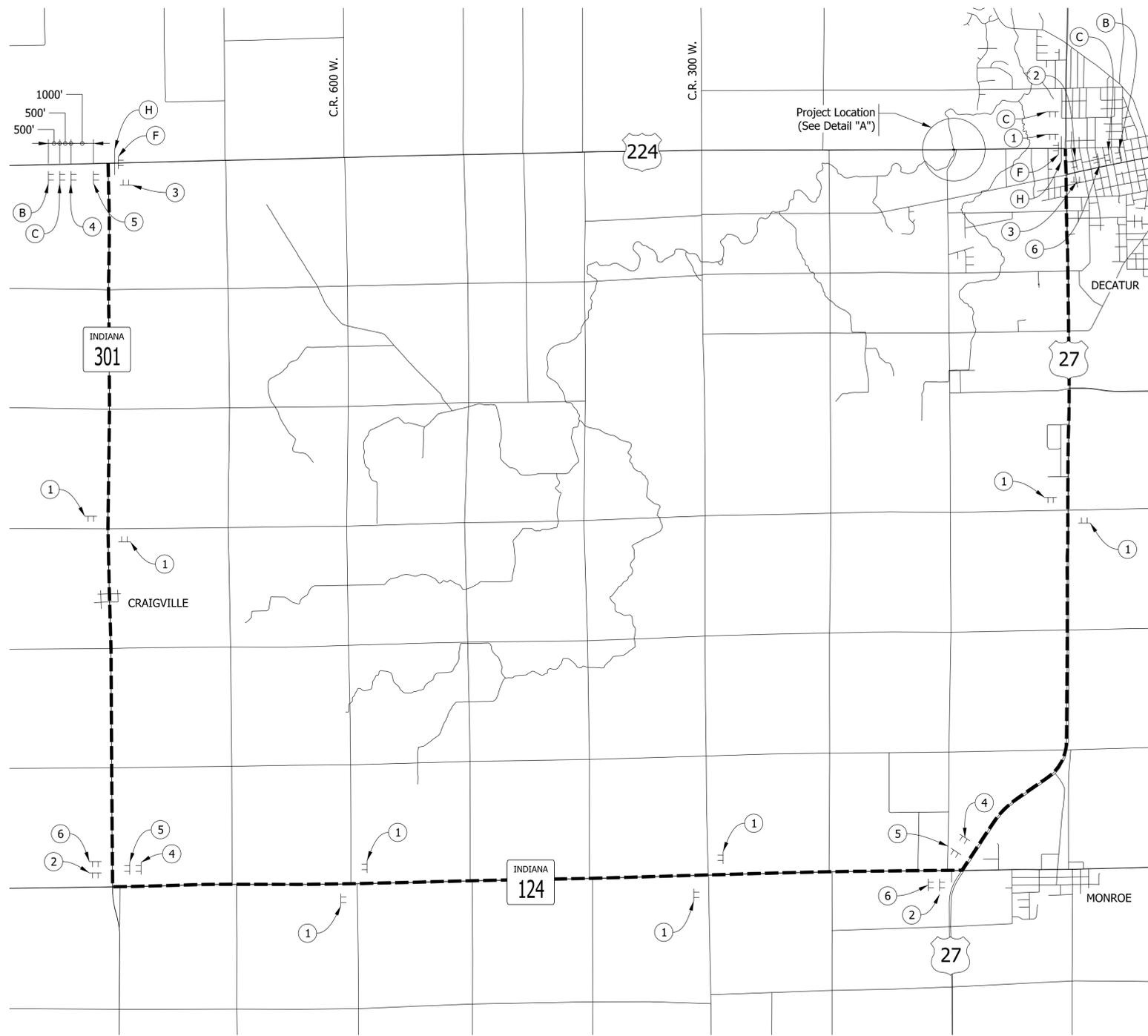
Model: Untitled Sheet
9/10/2019 11:13:48 PM
User: kharrison

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFC	DRAWN: PFC	
CHECKED: MJM	CHECKED: MJM	

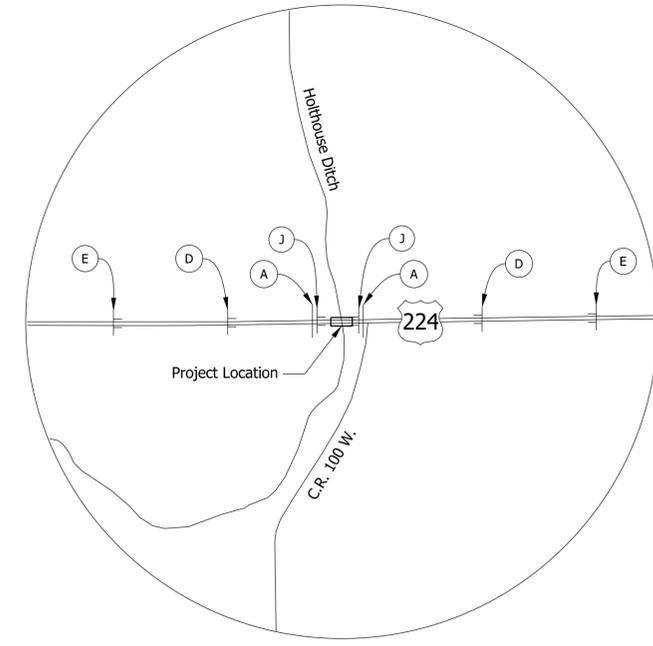
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAT NO. 1

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 224-01-10306
VERTICAL SCALE N/A	DESIGNATION 1701394
SURVEY BOOK ELECTRONIC	SHEETS 4 of 30
CONTRACT B-42474	PROJECT 1701394

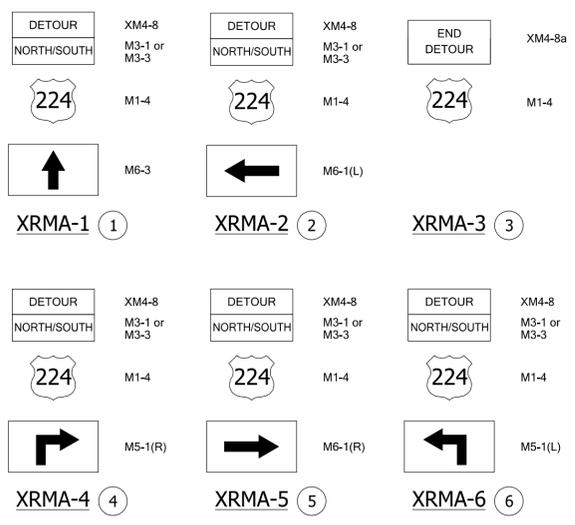


DETOUR ROUTE PLAN
Scale: 1" = 3000'



DETAIL "A"
Scale: 1" = 400'

DETOUR ROUTE MARKER ASSEMBLY LEGEND



LEGEND

- (A) TYPE III-A BARRICADES - 36 LFT REQUIRED
 - (B) "ROAD CLOSED AHEAD" - XW20-3
 - (C) "DETOUR AHEAD" - XW20-2
 - (D) "ROAD CLOSED 500 FT." - XW20-3
 - (E) "ROAD CLOSED 1000 FT." - XW20-3
 - (F) ROAD CLOSURE SIGN ASSEMBLY WITH "ROAD CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY" - R11-3
 - (H) TYPE III-B BARRICADES STAGGERED - 24 LFT REQUIRED *
 - (J) ROAD CLOSURE SIGN ASSEMBLY WITH "ROAD CLOSED" - R11-2
 - TT SIGN ASSEMBLY
 - DETOUR ROUTE
- NOTE: ACCESS TO PROPERTY OWNERS SHALL BE PROVIDED DURING CONSTRUCTION.
- * LOCATED OUTSIDE OF TRAVELED WAY

ESTIMATED QUANTITIES

DESCRIPTION	UNIT	TOTAL
CONSTRUCTION SIGN, A	EACH	11
DETOUR ROUTE MARKER ASSEMBLY	EACH	23
ROAD CLOSURE SIGN ASSEMBLY	EACH	4
TYPE III-A BARRICADES	LFT	72
TYPE III-B BARRICADES	LFT	48

TWO ROAD CLOSURE NOTICE SIGNS XG20-5 REQUIRED (ONE AT EACH END) PLACED AT SITE A MINIMUM OF 10 DAYS PRIOR TO ROAD CLOSURE

NOTES:
DETOUR ROUTE MARKER ASSEMBLIES SHALL BE IN ACCORDANCE WITH INDOT STANDARD DRAWING 801-TCDD-04.
TYPE B CONSTRUCTION WARNING LIGHTS SHALL BE USED WITH ALL SIGNS LOCATED ON BARRICADES.
TYPE A CONSTRUCTION WARNING LIGHTS SHALL BE USED ON ALL OTHER CONSTRUCTION SIGNS.

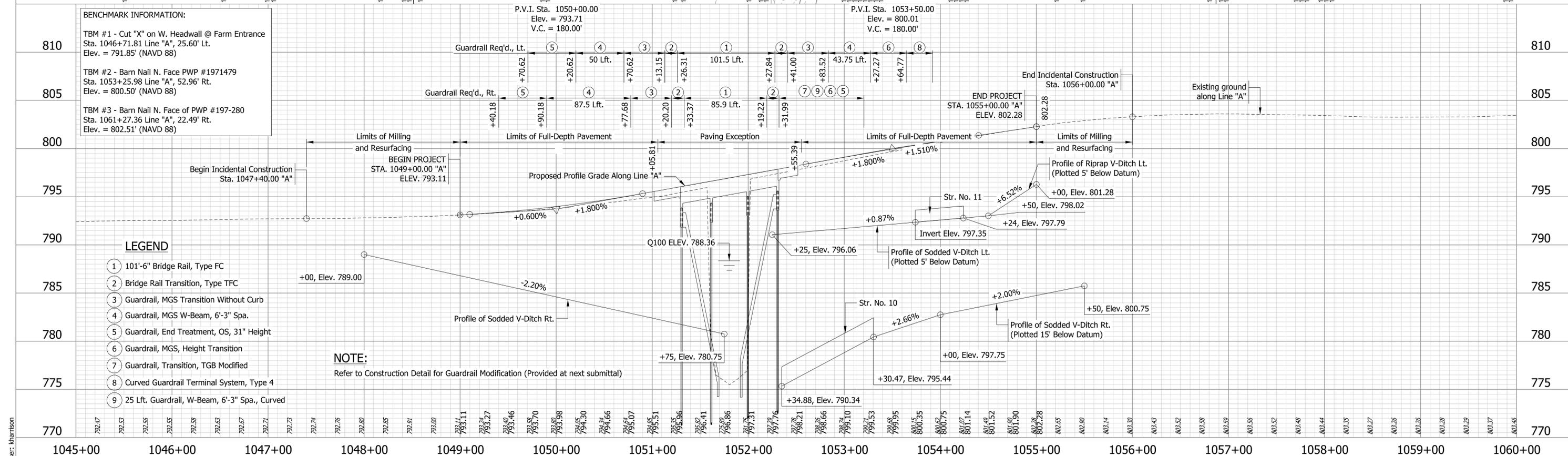
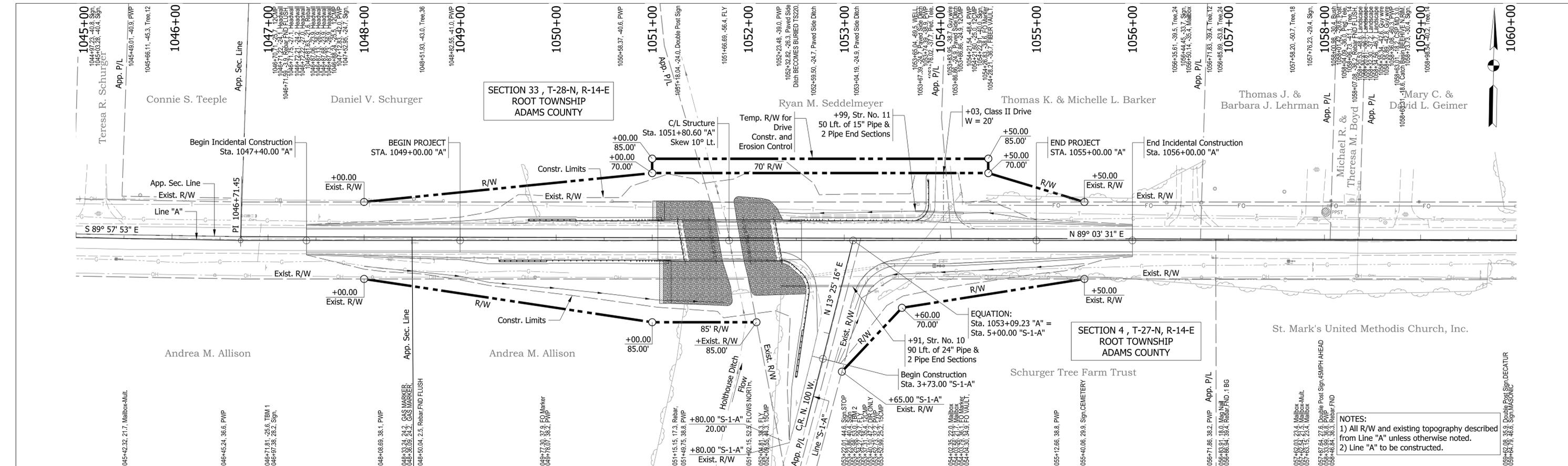
Model: Detour Route 9/10/2019 1:13:50 PM User: kharrison

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: PFC	DRAWN: PFC	
CHECKED: MJM	CHECKED: MJM	

INDIANA DEPARTMENT OF TRANSPORTATION

DETOUR ROUTE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	224-01-10306
VERTICAL SCALE	DESIGNATION
AS NOTED	1701394
SURVEY BOOK	SHEETS
ELECTRONIC	5 of 30
CONTRACT	PROJECT
B-42474	1701394

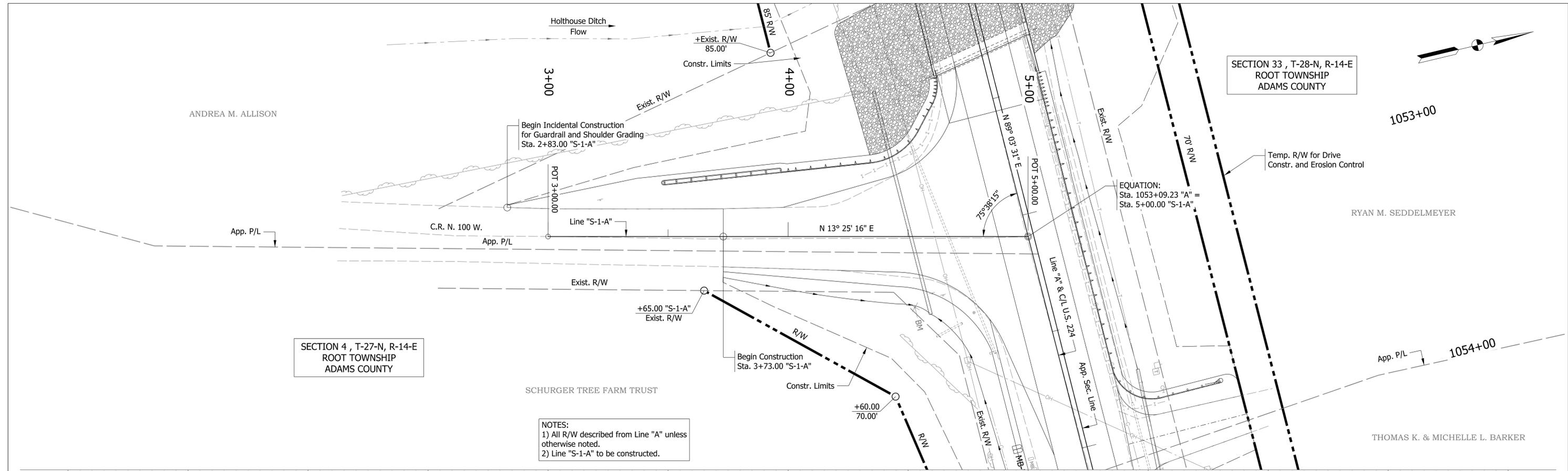


RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	
DESIGNED: KCH		DRAWN: KCH/MH			
CHECKED: MJM		CHECKED: SG/MJM			

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE LINE "A" - U.S. 224

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	224-01-10306
VERTICAL SCALE	DESIGNATION
1" = 5'	1701394
SURVEY BOOK	SHEETS
ELECTRONIC	6 of 30
CONTRACT	PROJECT
B-42474	1701394



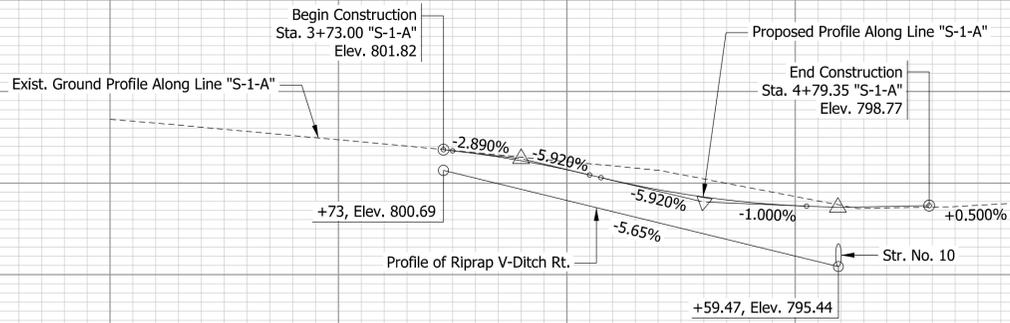
SECTION 4, T-27-N, R-14-E
ROOT TOWNSHIP
ADAMS COUNTY

SECTION 33, T-28-N, R-14-E
ROOT TOWNSHIP
ADAMS COUNTY

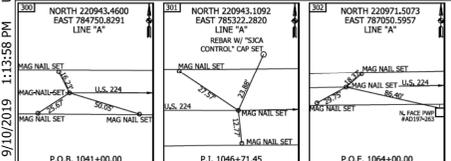
NOTES:
1) All R/W described from Line "A" unless otherwise noted.
2) Line "S-1-A" to be constructed.

BENCHMARK INFORMATION:
TBM #1 - Cut "X" on W. Headwall @ Farm Entrance
Sta. 1046+71.81 Line "A", 25.60' Lt.
Elev. = 791.85' (NAVD 88)
TBM #2 - Barn Nail N. Face PWP #1971479
Sta. 1053+25.98 Line "A", 52.96' Rt.
Elev. = 800.50' (NAVD 88)
TBM #3 - Barn Nail N. Face of PWP #197-280
Sta. 1061+27.36 Line "A", 22.49' Rt.
Elev. = 802.51' (NAVD 88)

P.V.I. Sta. 3+90.00 Elev. = 801.33 V.C. = 30.00'
P.V.I. Sta. 4+30.00 Elev. = 798.96 V.C. = 45.00'
P.V.I. Sta. 4+59.35 Elev. = 798.67



Model: Plan and Profile
9/10/2019 1:13:58 PM
User: kharrison

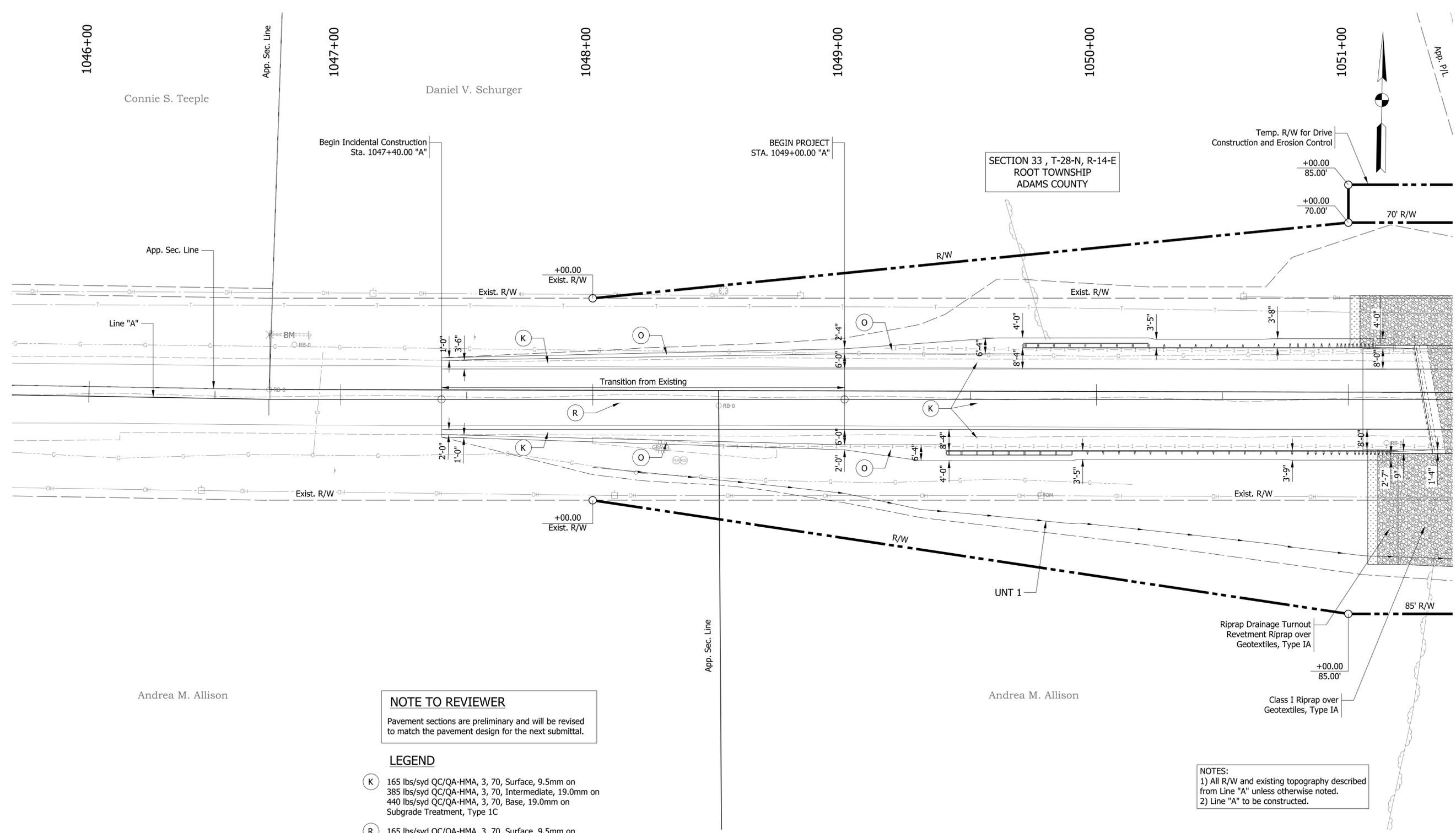


RECOMMENDED FOR APPROVAL _____
DESIGNED: PFC DRAWN: PFC
CHECKED: MJM CHECKED: SG/MJM

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "S-1-A" - C.R. 100 W.

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE 224-01-10306
VERTICAL SCALE 1" = 5'	DESIGNATION 1701394
SURVEY BOOK ELECTRONIC	SHEETS 7 of 30
CONTRACT B-42474	PROJECT 1701394



SECTION 33, T-28-N, R-14-E
ROOT TOWNSHIP
ADAMS COUNTY

NOTE TO REVIEWER
Pavement sections are preliminary and will be revised to match the pavement design for the next submittal.

- LEGEND**
- (K) 165 lbs/syd QC/QA-HMA, 3, 70, Surface, 9.5mm on 385 lbs/syd QC/QA-HMA, 3, 70, Intermediate, 19.0mm on 440 lbs/syd QC/QA-HMA, 3, 70, Base, 19.0mm on Subgrade Treatment, Type 1C
 - (R) 165 lbs/syd QC/QA-HMA, 3, 70, Surface, 9.5mm on Milling, Asphalt, 1 1/2"
 - (O) Variable depth Compacted Aggregate, No. 53 (10" max.)

NOTES:
1) All R/W and existing topography described from Line "A" unless otherwise noted.
2) Line "A" to be constructed.

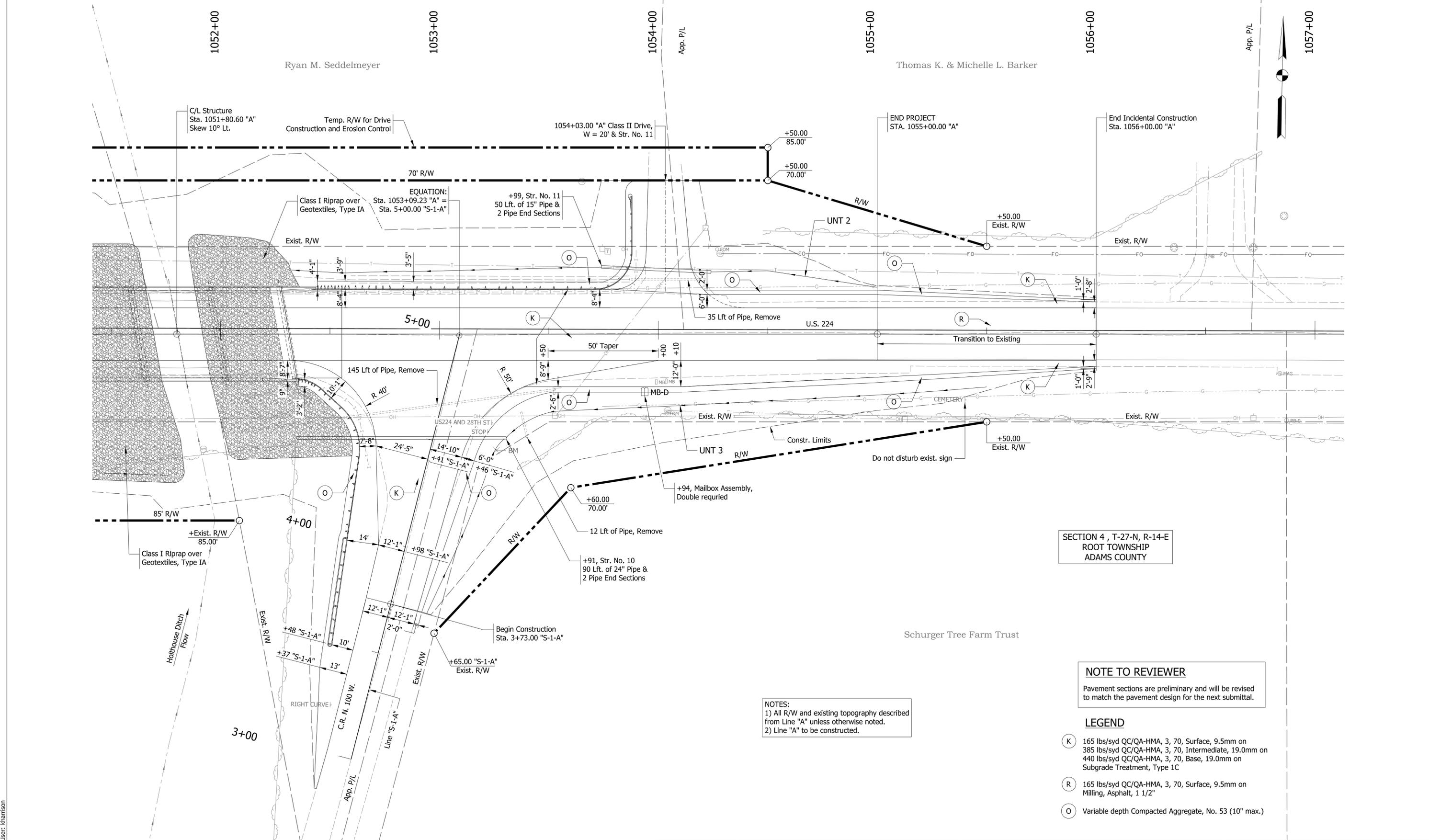
Model: Constr-Det-1 9/10/2019 1:14:03 PM User: kharrison

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ WWM	DRAWN: _____ WWM	
CHECKED: _____ MJM	CHECKED: _____ MJM	

**INDIANA
DEPARTMENT OF TRANSPORTATION**

CONSTRUCTION DETAILS

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE 224-01-10306
VERTICAL SCALE N/A	DESIGNATION 1701394
SURVEY BOOK ELECTRONIC	SHEETS 8 of 30
CONTRACT B-42474	PROJECT 1701394



SECTION 4, T-27-N, R-14-E
 ROOT TOWNSHIP
 ADAMS COUNTY

NOTE TO REVIEWER
 Pavement sections are preliminary and will be revised to match the pavement design for the next submittal.

- LEGEND**
- (K) 165 lbs/syd QC/QA-HMA, 3, 70, Surface, 9.5mm on 385 lbs/syd QC/QA-HMA, 3, 70, Intermediate, 19.0mm on 440 lbs/syd QC/QA-HMA, 3, 70, Base, 19.0mm on Subgrade Treatment, Type 1C
 - (R) 165 lbs/syd QC/QA-HMA, 3, 70, Surface, 9.5mm on Milling, Asphalt, 1 1/2"
 - (O) Variable depth Compacted Aggregate, No. 53 (10" max.)

NOTES:
 1) All R/W and existing topography described from Line "A" unless otherwise noted.
 2) Line "A" to be constructed.

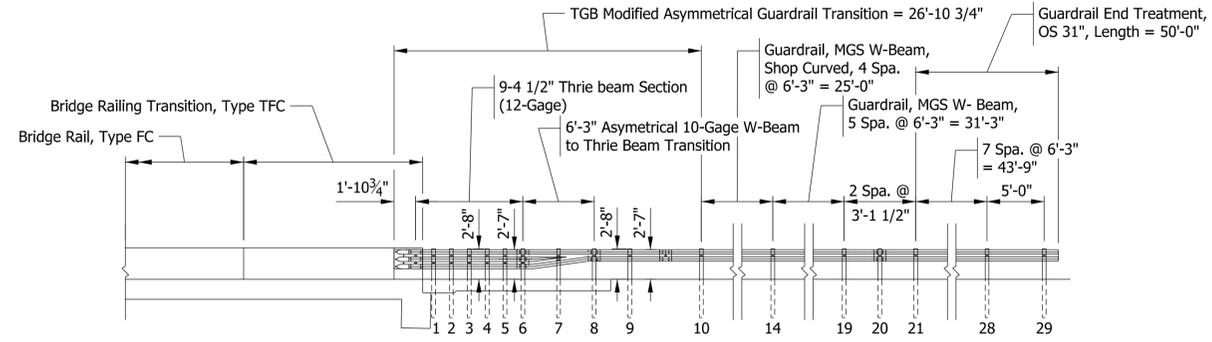
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: WWM	DRAWN: WWM	
CHECKED: MJM	CHECKED: MJM	

**INDIANA
 DEPARTMENT OF TRANSPORTATION**

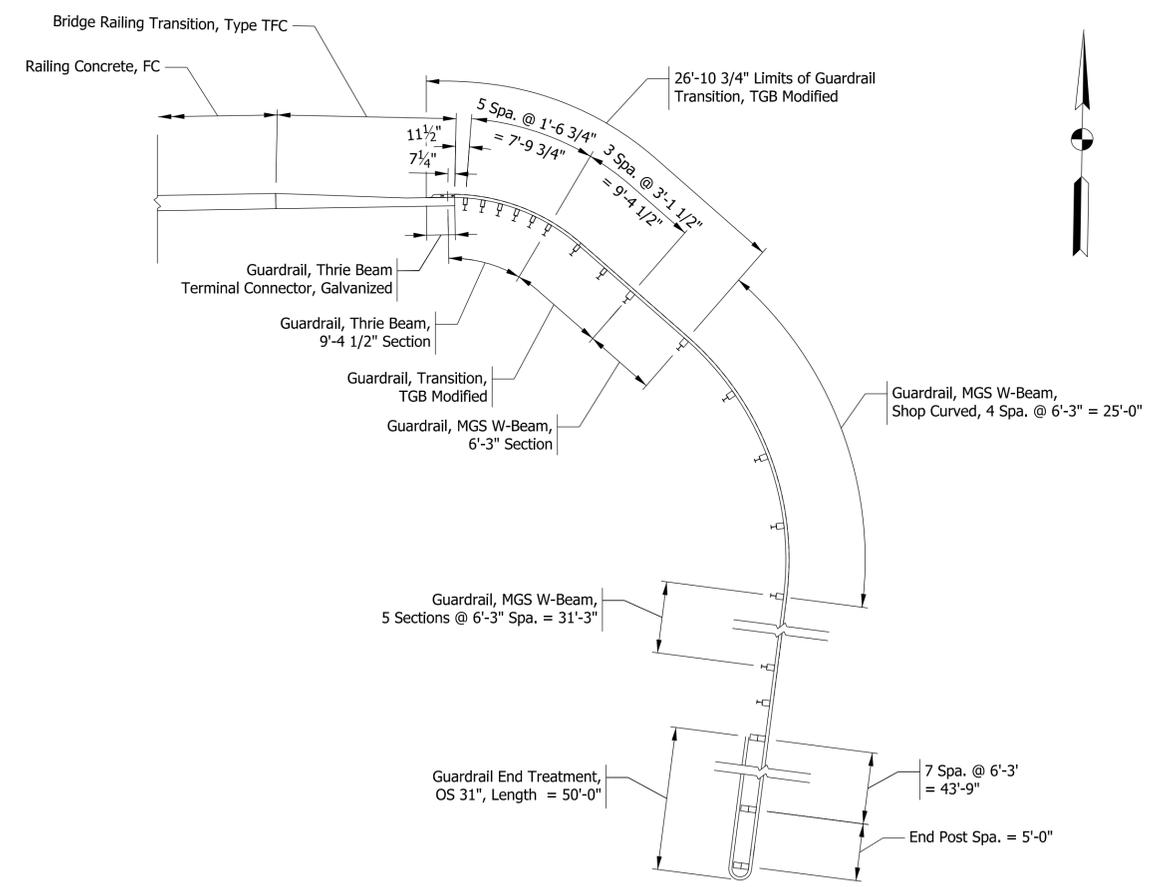
CONSTRUCTION DETAILS

HORIZONTAL SCALE	BRIDGE FILE
VERTICAL SCALE	224-01-10306
	DESIGNATION
	1701394
SURVEY BOOK	SHEETS
ELECTRONIC	9 of 30
CONTRACT	PROJECT
B-42474	1701394

Model: Constr-Det-2
 9/10/2019 1:14:04 PM User: kharrison



MODIFIED TGB BRIDGE RAILING TRANSITION ELEVATION



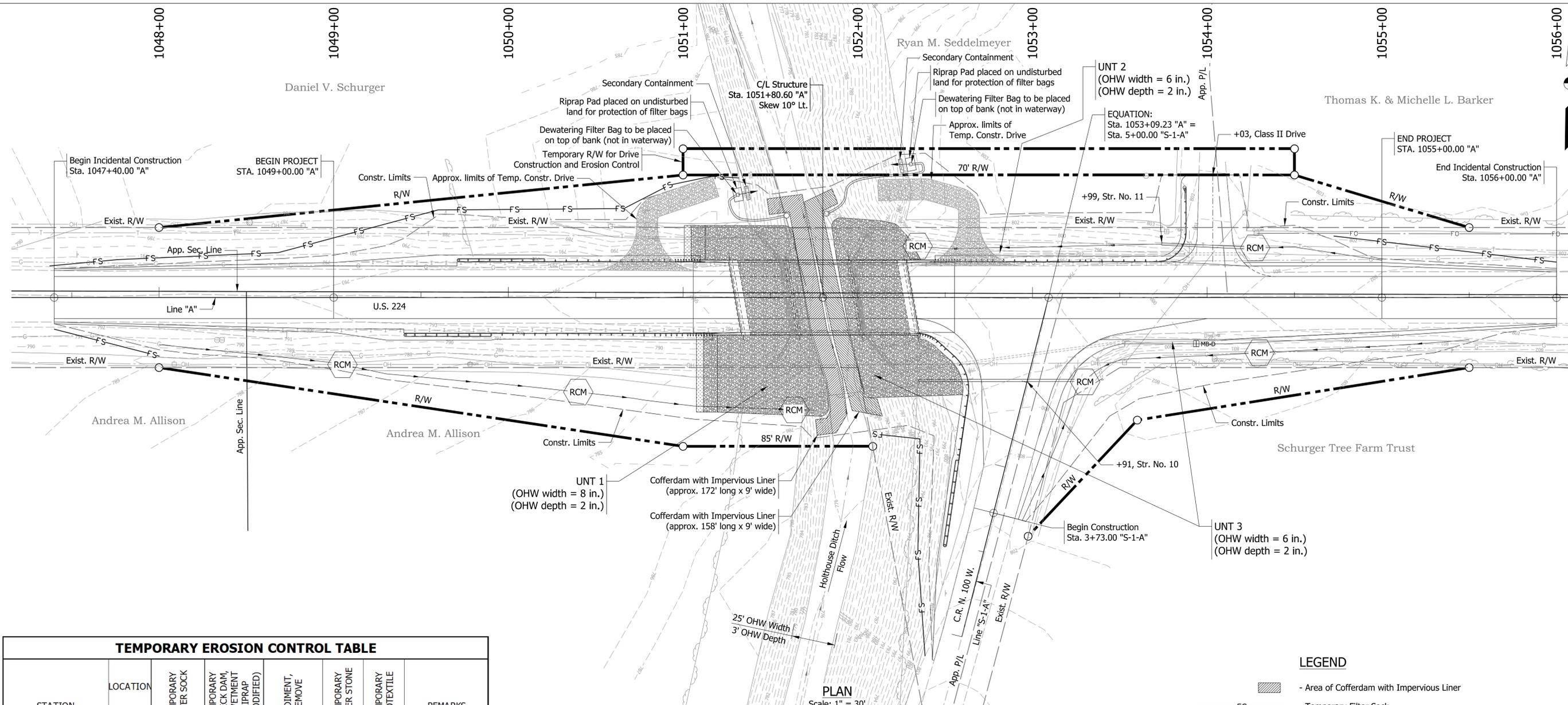
MODIFIED TFC BRIDGE RAILING TRANSITION PLAN

Model: Mod GR Detail
9/10/2019 11:46:05 PM User: kharrison

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ WWM	DRAWN: _____ WWM	
CHECKED: _____ MJM	CHECKED: _____ MJM	

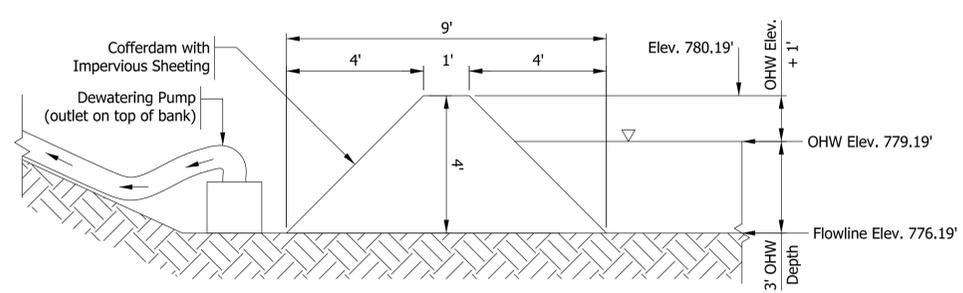
INDIANA DEPARTMENT OF TRANSPORTATION	
MODIFIED GUARDRAIL TRANSITION DETAILS	

HORIZONTAL SCALE 1/8" = 1'-0"	BRIDGE FILE 224-01-10306
VERTICAL SCALE N/A	DESIGNATION 1701394
SURVEY BOOK ELECTRONIC	SHEETS 10 of 30
CONTRACT B-42474	PROJECT 1701394



PLAN
Scale: 1" = 30'

TEMPORARY EROSION CONTROL TABLE								
STATION	LOCATION		TEMPORARY FILTER SOCK	TEMPORARY CHECK DAM, REVETMENT RIPRAP (MODIFIED)	SEDIMENT REMOVE	TEMPORARY FILTER STONE	TEMPORARY GEOTEXTILE	REMARKS
	LEFT	MEDIAN						
LINE "A"								
1047+40 to 1051+32	X		402		3			
1047+40 to 1048+00		X	64		1			
1049+05		X		16	2	1	35	
1050+40		X		16	2	1	35	
1051+64		X		16	2	1	35	
1052+08 to 1052+36		X	27		1			
1052+34	X			16	2	1	35	
1053+30		X		16	2	1	35	
1054+30	X			16	2	1	35	
1054+30		X		16	2	1	35	
1054+72 to 1056+00	X		128		2			
LINE "S-1-A"								
2+87 to 4+04	X		125					
TOTALS			746	112	21	7	245	



DEWATERING / WORK AREA
Not to Scale

- LEGEND**
- Area of Cofferdam with Impervious Liner
 - Temporary Filter Sock
 - Temporary Check Dam, Revetment Riprap, Modified (See Std. Dwg. E-205-TECD-06 for modified check dam)

- NOTES**
1. Any areas in addition to those called out, left undisturbed for a period exceeding 7 days shall be required to have temporary seeding.
 2. All disturbed areas shall be permanently seeded in accordance with INDOT Standard Specifications as soon as possible upon completion of work in that area.
 3. Upon Completion of ditch grading, permanent erosion control measures specified in the plans shall be implemented.
 4. Erosion Control Blankets will be used on all slopes steeper than 3:1.
 5. Dewatering operation shall remain in place until all work in the channel is complete including channel stabilization.
 6. Dewatering operation shall be done on one side of the channel at a time.
 7. See General Plan sheet for limits of permanent riprap scour protection.

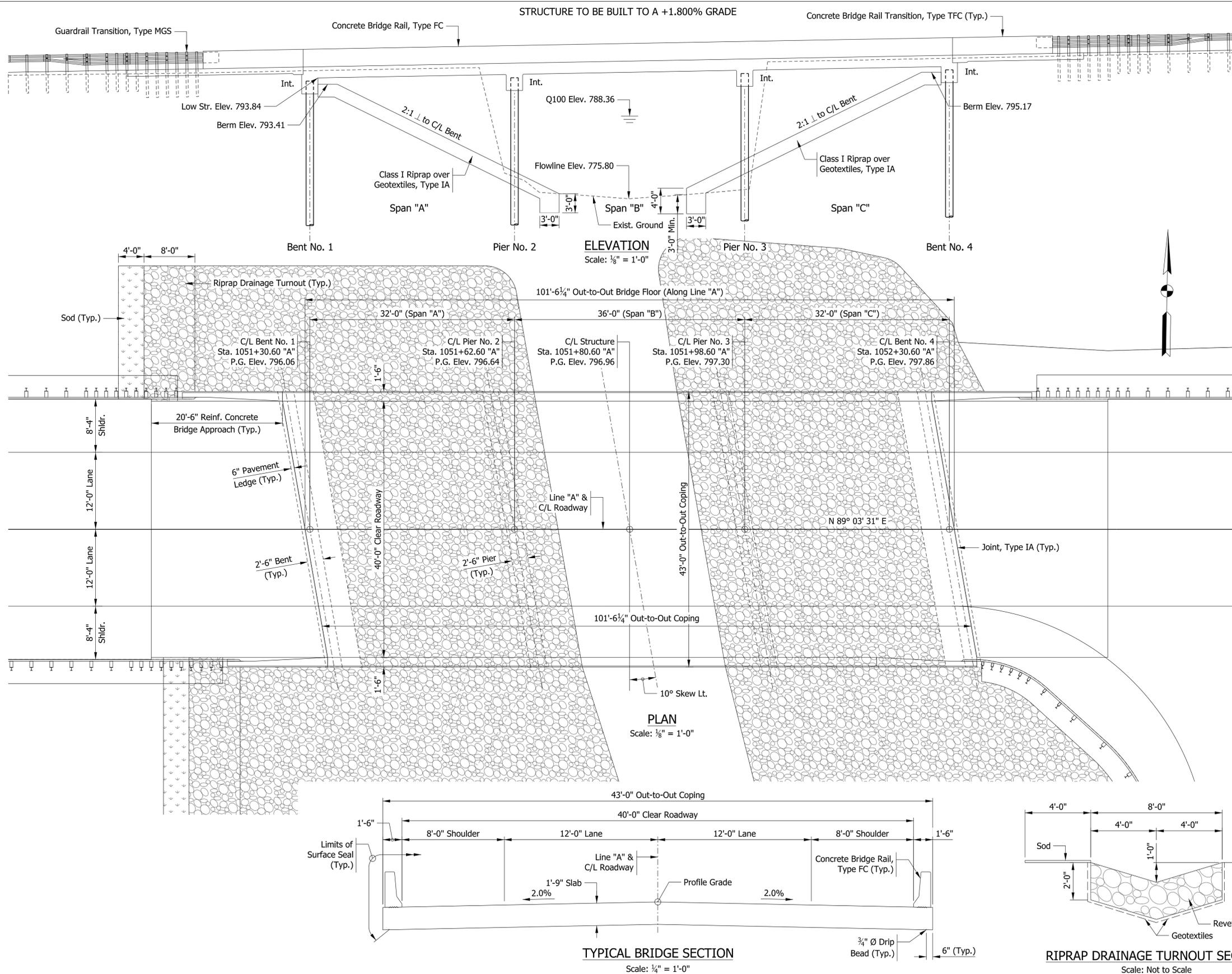
Model: ErosionControl.dwg 9/10/2019 1:14:08 PM User: kharrison

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: KCH	DRAWN: KCH	
CHECKED: MJM	CHECKED: MJM	

**INDIANA
DEPARTMENT OF TRANSPORTATION**

EROSION CONTROL DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	224-01-10306
VERTICAL SCALE	DESIGNATION
AS NOTED	1701394
SURVEY BOOK	SHEETS
ELECTRONIC	11 of 30
CONTRACT	PROJECT
B-42474	1701394



GENERAL NOTES

PLANS FOR THE EXISTING STRUCTURE ARE ON FILE WITH INDOT UNDER STRUCTURE 224-01-01546. EXISTING STRUCTURE TO BE REMOVED.

REINFORCING STEEL COVER SHALL BE 2 1/2" MIN. IN TOP AND 1" MIN IN BOTTOM OF FLOOR SLABS AND 2" IN ALL OTHER PARTS UNLESS NOTED.

THE EXPOSED FACES OF THE END BENTS, THE TOP OF THE DECK, ALL EXPOSED FACES OF THE CONCRETE BARRIER, THE FACE OF THE DECK COPING AND THE UNDERSIDE OF THE DECK FROM THE COPING TO THE DRIP BEAD SHALL BE SEALED WITH A PENETRATING EPOXY SEALER.

WHERE NEW WORK IS TO BE FITTED TO OLD WORK, THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND CONDITIONS IN THE FIELD, REPORT ALL ERRORS AND DISCREPANCIES TO THE ENGINEER AND ASSUME RESPONSIBILITY FOR THEIR CORRECTNESS AND THE FIT OF THE NEW PART TO THE OLD.

DESIGN STRENGTHS

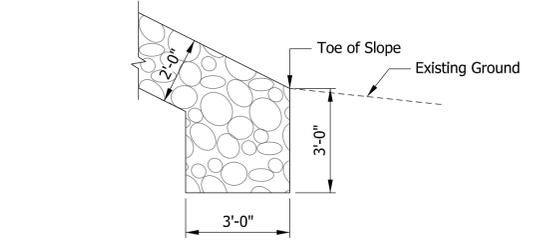
CLASS "C" CONCRETE f'c = 4,000 PSI
 REINFORCING STEEL fy = 60,000 PSI

DESIGN DATA

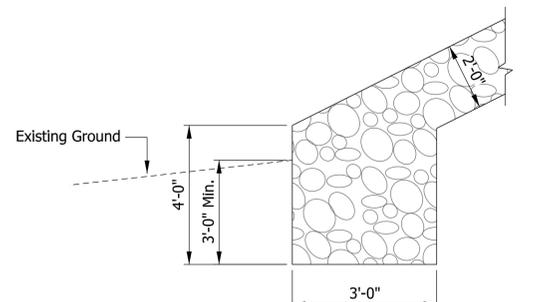
LIVE LOAD:
 DESIGNED FOR HL-93 LOADING WITH IMPACT AND DISTRIBUTION IN ACCORDANCE WITH THE 2017 A.A.S.H.T.O. LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, WITH INTERIMS THROUGH 2018.

DEAD LOAD:
 ACTUAL WEIGHT PLUS 35 PSF (COMPOSITE) FOR FUTURE WEARING SURFACE.

FLOOR SLAB:
 DESIGNED WITH A 1'-8 1/2" STRUCTURAL DEPTH AND A 1/2" INTEGRAL WEARING SURFACE.



RIPRAP DRAINAGE TURNOUT TOE DETAIL (WEST SIDE)
 Scale: Not to Scale



RIPRAP DRAINAGE TURNOUT TOE DETAIL (EAST SIDE)
 Scale: Not to Scale

CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE
 3 SPANS: 32'-0", 36'-0", 32'-0"
 40'-0" CLEAR SPAN; 10° SKEW LT.
 U.S. 224 OVER HOLHOUSE DITCH
 ADAMS COUNTY, INDIANA

Model: General Plan 9/10/2019 11:44:13 PM User: kharrison

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MG	DRAWN: PFC	
CHECKED: MJM	CHECKED: MJM	

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	224-01-10306
VERTICAL SCALE	DESIGNATION
AS NOTED	1701394
SURVEY BOOK	SHEETS
ELECTRONIC	13 of 30
CONTRACT	PROJECT
B-42474	1701394